

## FILE NOTATIONS

Entered in NID File .....  
Location Map Pinned .....  
and Indexed .....

Checked by Chief .....  
Approval Letter .....  
Disapproval Letter .....

### COMPLETION DATA:

Well Completed .....  
..... W. .... TA.....  
..... OS..... PA.....

Location Inspected .....  
Bond released  
State or Fee Land .....

### LOGS FILED

Miller's Log.....  
Metric Logs (No.) .....  
..... I..... Dual I Lat..... GR-N..... Micro.....  
AC Sonic GR..... Lat..... Mi-L..... Sonic.....  
CBLog..... CCLog..... Others.....



May 10, 1976

State of Utah  
Division of Oil, Gas & Mining  
1588 West, North Temple  
Salt Lake City, Utah 84116

Attn: Mr. Cleon B. Feight, Director

Re: Colorado Energetics, Fuelco, Impel  
Weber Coal Co. 13-3  
SW/4 Sec. 3-T2N-R5E  
Summit County, Utah

Dear Jack:

Enclosed please find our Application for Permit to Drill the referenced well. I believe all of the information required on/with that form is included.

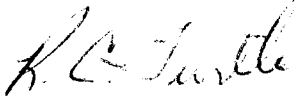
With regard to the "12 point environmental statement", please accept the following:

1. A plat showing all existing roads in the immediate area.  
See attached U.S.G.S. topo map.
2. A plat showing all planned access roads for the project.  
See attached U.S.G.S. topo map.
3. A plat showing all existing wells in the immediate area.  
There are no existing oil wells within 5 miles of the staked location. Mountain Fuel Supply has 2 gas storage wells in Section 10, which are about 2400' deep.
4. A plat showing all existing lateral roads to well locations.  
See Attached U.S.G.S. topo map.
5. A plat showing location of tank battery and flowlines.  
If these facilities are required, they will be situated on the NW corner of the location.
6. A plat showing location of any water supply well, if one is used.  
Water to be obtained from "North Narrows Ditch Company".  
Energetics has purchased shares in this company.

7. A plan for the disposal of all waste materials.  
All waste to be disposed of in on site waste pit.
8. A plat showing the location of all camps, if it is a camp job.  
N/A
9. A plat showing any air strips to be used or constructed.  
N/A
10. A plat showing the layout of all rig components such as pits, burn pits, pipe racks, water storage, fuel storage, etc.  
See attached plat.
11. A plan for the restoration of the drillsite after drillings and completion operations are finished.  
Upon completion of this operation, the land will be restored as close as possible to the original with reseeding as required.
12. Any other pertinent information which applies to the particular job.  
This site is located on a relatively flat spot at the base of a 200' cliff which runs northeast through the area. The ground slopes upward from the west and northwest side of our location towards the cliff. The vegetation in the area is composed of some native grasses and a few cedar trees. There are large areas of undesirable sage brush on the intended site. Please note that the proposed road into the location will go around behind a hill to the east and north of the location to keep the road out of site from the county road to the south. Due to the cliff to the west and northwest and the underground coal mines to the east and southeast and the hillside to the south, we think this is the only logical spot to place this site in this section.

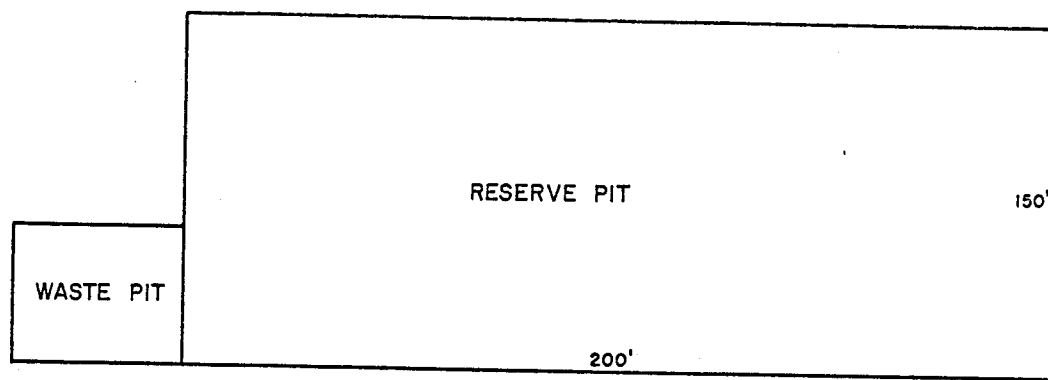
Yours very truly,

ENERGETICS, INC.

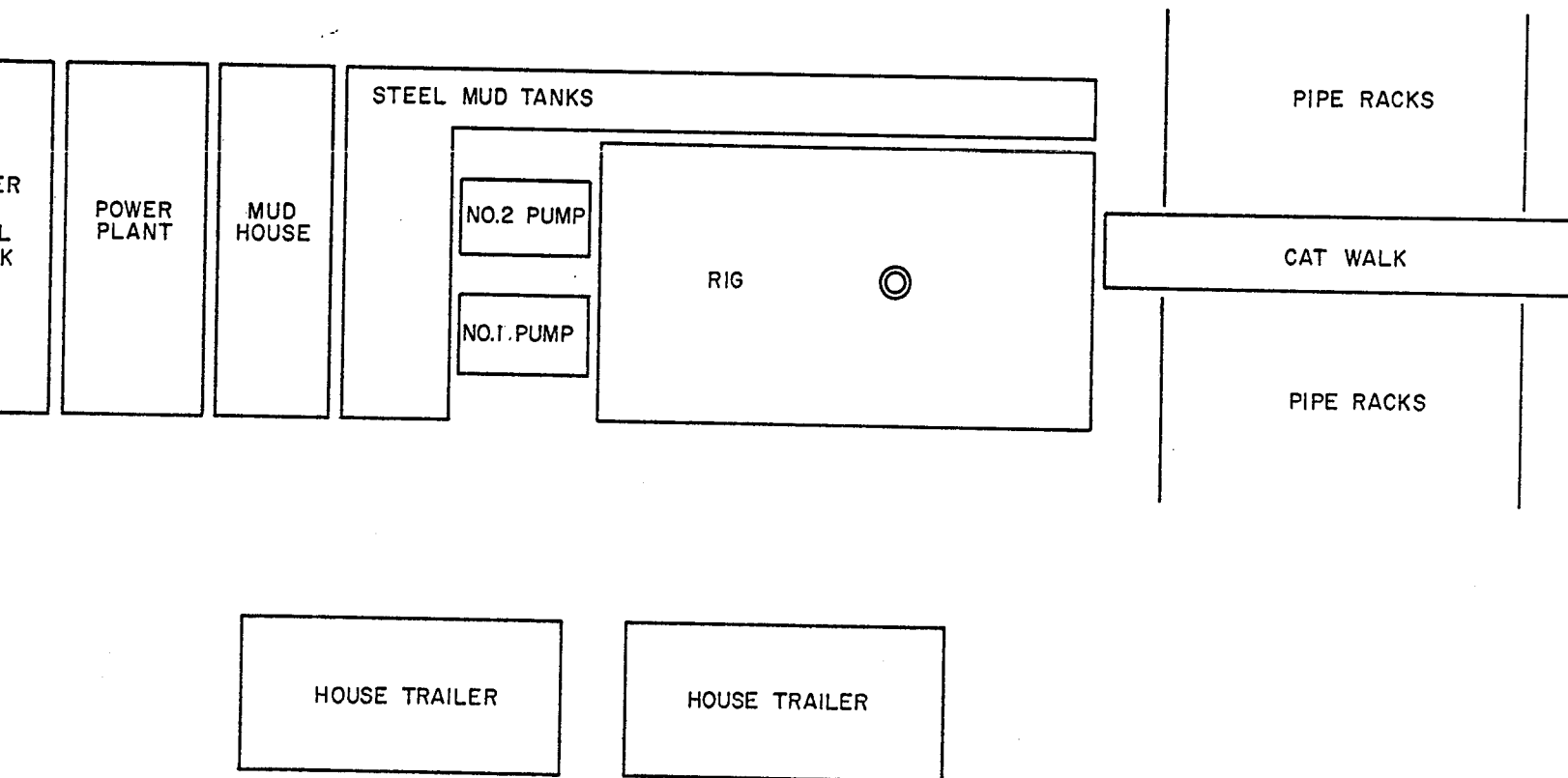


R. C. Turtle  
Operations Manager

RCT/jh  
Enc/



Location Plat



420'

DRAWING NOT TO SCALE

STATE OF UTAH  
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPPLICATE\*  
(Other instructions on  
reverse side)

Form approved.  
Budget Bureau No. 42-R1425.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL WELL ☒

GAS WELL ☐

OTHER

SINGLE ZONE ☐

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Colorado Energetics, Inc.- Fuelco - Impel

3. ADDRESS OF OPERATOR

333 West Hampden Ave., Englewood, Colorado 80110

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

500' FWL & 1400' FSL

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

2 miles NE of Coalville, Utah

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)

513'

16. NO. OF ACRES IN LEASE

810.37

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

160

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

None

19. PROPOSED DEPTH

16,500' Weber

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

5981' Ungraded G.L.

22. APPROX. DATE WORK WILL START\*

6-1-76

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13-3/8"	61#	3000'	Sufficient to circulate cement back to 8000'
12 1/4"	9-5/8"	53.5#	10,500'	

Please see attached Drilling Prognosis



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*H. C. Furtle*

TITLE

Operations Manager

DATE

May 10, 1976

(This space for Federal or State office use)

PERMIT NO.

43-043-30024

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side

ENERGETICS COALVILLE NUGGET TEST  
DRILLING PROGNOSIS

Location: Section 3, T2N-R5E, Summit County, Utah

Proposed TD: 16,500'

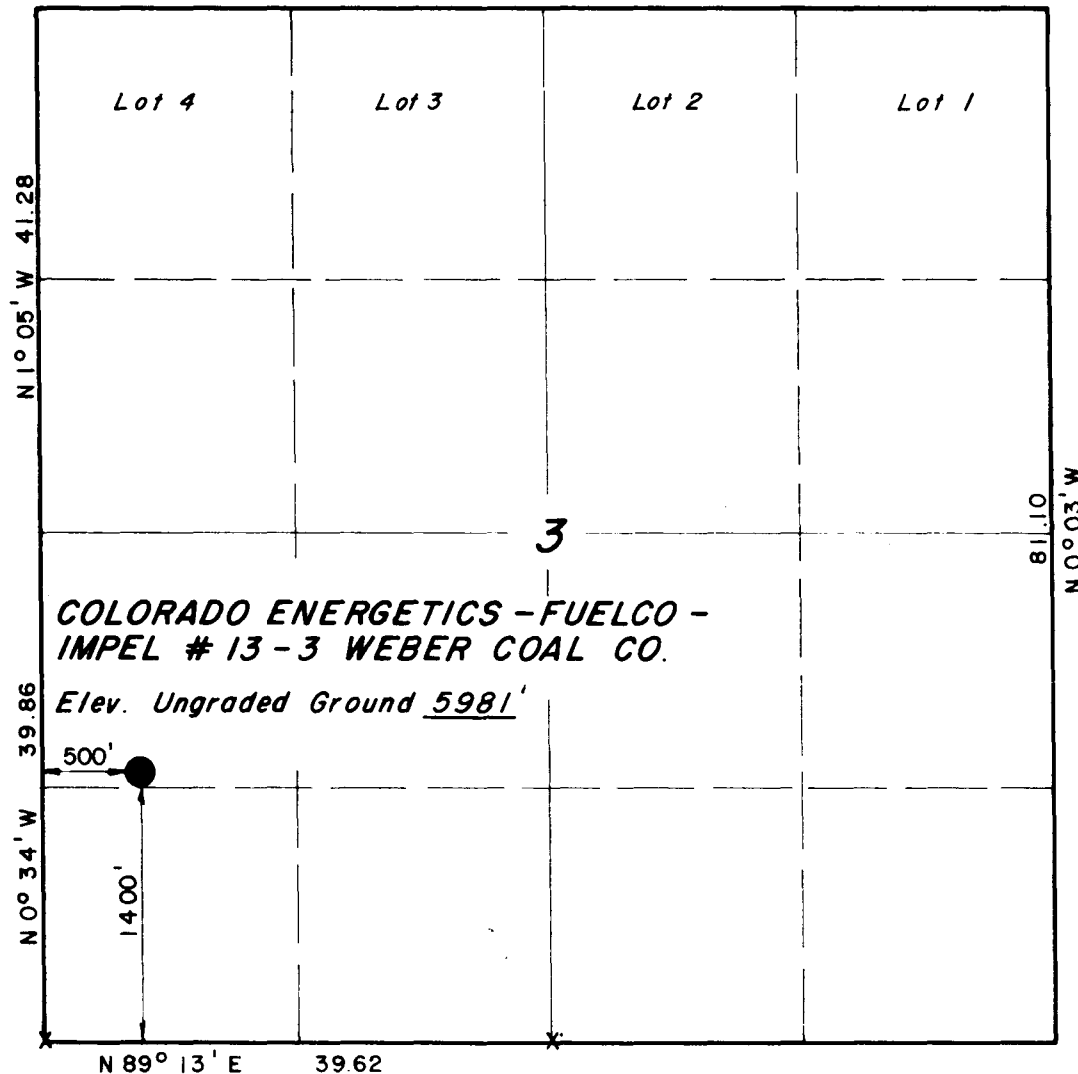
G. L. Elevation: Approximately 6100'. (Not staked yet)

Desired Spud Date: June 10, 1976

1. Set 50' 22" conductor pipe and drill MH & RH.
2. MI & RU Rotary tools.
3. Drill 8-3/4" pilot hole to 3000'.
4. Ream 8-3/4" hole to 17½".
5. Set 3000' 13-3/8" 61#/ft. K-55 ST&C casing and cement same to surface.
6. Install 12" 900 BOP. Test BOP & 13-3/8" casing to 1500 psi.
7. Drill 12¼" hole to approx. 10,500'. Log well per well site geologists instruction.
8. Set 9-5/8" tapered casing to 10,500' or as necessary.
9. Cement 9-5/8" casing to top of salt section - approx. 8000'.
10. Install 10" 900 BOP. Test BOP & 9-5/8" casing to 2000 psi.
11. Drill 8½" hole to T.D. - approx. 16,500'.
12. Core, test, log and evaluate as determined by on site geologist.
13. If well is deemed commercial, run 7" liner from 10,200-16,500'. Install External Casing Packer(s) as necessary on 7" liner and cement liner top to bottom.
14. If well is deemed a dry hole:
  - (a) Plug back to bottom of 9-5/8" casing as directed by State of Utah
  - (b) Determine free point of 9-5/8" casing. Shoot same at free point and recover
  - (c) P & A per State of Utah directions.

RECEIVED APR 26 1976

*T 2 N, R 5 E, S. L. B. & M.*



X = Section Corners Located (Brass Caps)

PROJECT

**ENERGETICS INCORPORATED**

Well location located as shown  
in the NW 1/4 SW 1/4 Section 3,  
T 2 N, R 5 E, S. L. B. & M. Summit  
County, Utah.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM  
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY  
SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE  
BEST OF MY KNOWLEDGE AND BELIEF.

*[Signature]*

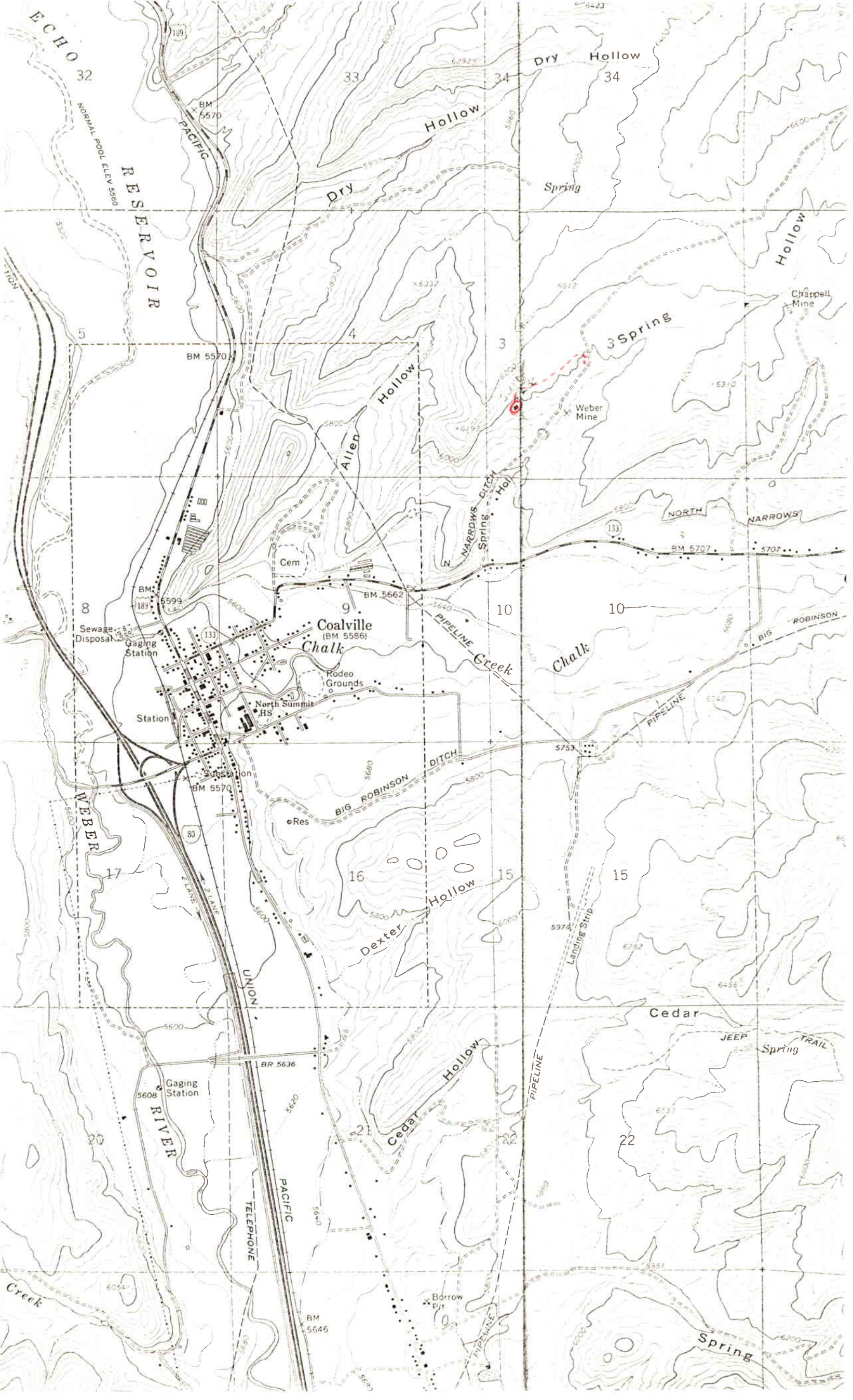
REGISTERED LAND SURVEYOR  
REGISTRATION NO 2454  
STATE OF UTAH

Revised: 4-24-76

UINTAH ENGINEERING & LAND SURVEYING  
P. O. BOX Q - 110 EAST - FIRST SOUTH  
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 4-22-76
PARTY L.D.T. R.K. J.W.	REFERENCES GLO Plat
WEATHER Fair	FILE ENERGETICS INC.







DIVISION OF OIL, GAS, AND MINING

\*FILE NOTATIONS\*

Date: May 13 -  
Operator: Colorado Energetics, Inc.  
Well No: Wheeler Coal Co. 13-3  
Location: Sec. 3 T. 24N R. 57E County: Summit

File Prepared



Entered on N.I.D.



Card Indexed



Completion Sheet



Checked By:

Administrative Assistant:

AW

Remarks:

Petroleum Engineer/Mined Land Coordinator:

OK Pat

*Pat*  
*cert*

Remarks:

Director:

Z

Remarks:

Include Within Approval Letter:

Bond Required

☐

Survey Plat Required

☐

Order No.

☐

Blowout Prevention Equipment

☐

Rule C-3(c) Topographical exception/company owns or controls acreage within a 660' radius of proposed site

☒

*Topo. Exception*

O.K. Rule C-3

☐

O.K. In \_\_\_\_\_ Unit

☐

Other:

☐

Letter Written

May 17, 1976

Colorado Energetics, Inc.  
333 West Hampden Avenue  
Englewood, Colorado 80110

Re: Well No. Weber Coal #1  
Sec. 3, T. 2 N, R. 5 E,  
Summit County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with Rule C-3(c), General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

PATRICK L. DRISCOLL - Chief Petroleum Engineer  
HOME: 582-7247  
OFFICE: 533-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling.

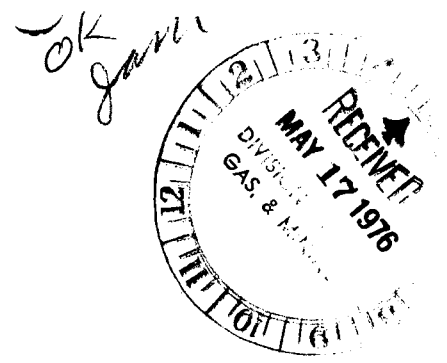
The API number assigned to this well is 43-043-30024.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

CLEON B. FEIGHT  
DIRECTOR

CBF:sw



May 14, 1976

State of Utah  
Division of Oil, Gas and Mining  
1588 West, North Temple  
Salt Lake City, Utah 84116

Attn: Mr. Pat Driscoll:

Re: Colo. Energetics, Fuelco, Impel  
Weber Coal Company 13-3  
Sec. 3-T2N-R5E, Summit County

Dear Sir:

You will note that in our "Application for Permit to Drill" the noted well, we have staked the location 80' north of the legal location. Please be advised that we are requesting an exception to the 500' rule on the grounds of difficult topography at the legal spot.

If we spotted the stake @1320' FSL, it would mean approximately 30' of fill would be required to level the location on the south. This would also require additional "cuts" to obtain the required fill dirt.

We hope that the exception can be granted for the noted reason of "topography".

Yours very truly,

ENERGETICS, INC.

*R. C. Turtle*  
R. C. Turtle  
Operations Manager

RCT/jh

**CIRCULATE TO:**

DIRECTOR	-----	<input checked="" type="checkbox"/>	<i>JP</i>
PETROLEUM ENGINEER	-----	<input type="checkbox"/>	
MINE CONSULTANT	-----	<input type="checkbox"/>	
ADMINISTRATIVE ASSISTANT	-----	<input checked="" type="checkbox"/>	<i>S</i>
ALL	-----	<input type="checkbox"/>	

RETURN TO *Kathy*  
FOR FILING



June 8, 1976

Mr. Cleon B. Feight, Director  
State of Utah  
Division of Oil, Gas, and Mining  
1588 West North Temple  
Salt Lake City, Utah 84116

Dear Mr. Feight:

Please be advised that the correct name to the well we are drilling in Section 3, T2N-R5E, Summit County, Utah is the Weber Coal Co. 13-3. Enclosed in a copy of the Application to Drill for verification. Please change your records for future reference. Thank you.

Sincerely,

ENERGETICS, INC.

A handwritten signature in black ink, appearing to read 'Jo Hansen', written in a cursive style.

Jo Hansen  
Operations Secretary

/jh  
Enc/

*Well file*

CALVIN L. RAMPTON  
Governor



RECEIVED MAY 20 1976

OIL, GAS, AND MINING BOARD

GORDON E. HARMSTON  
Executive Director,  
NATURAL RESOURCES

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS, AND MINING  
1588 West North Temple  
Salt Lake City, Utah 84116  
(801) 533-5771

GUY N. CARDON  
Chairman

CHARLES R. HENDERSON  
ROBERT R. NORMAN  
JAMES P. COWLEY  
HYRUM L. LEE

CLEON B. FEIGHT  
Director

May 17, 1976

Colorado Energetics, Inc.  
333 West Hampden Avenue  
Englewood, Colorado 80110

RECEIVED  
MAY 9 1976

13-3

Re: Well No. Weber Coal #1  
Sec. 3, T. 2 N, R. 5 E,  
Summit County, Utah

Gentlemen:

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HOME: 582-7247  
OFFICE: 533-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling.

The API number assigned to this well is 43-043-30024.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

*Cleon B. Feight*  
CLEON B. FEIGHT  
DIRECTOR

CBF:sw

CIRCULATE TO:

DIRECTOR \_\_\_\_\_ ☐  
PETROLEUM ENGINEER \_\_\_\_\_ ☐  
MINING ENGINEER \_\_\_\_\_ ☐  
ADMINISTRATIVE ASSISTANT \_\_\_\_\_ ☐  
ALL \_\_\_\_\_ ☐  
RETURN TO *Feight* ☐  
FOR FILING

K.O.

9

**JOHNSTON**  
**Schlumberger**

**technical  
report**



## EQUIPMENT & HOLE DATA

County SUMMIT State UTAH Field Report No. 14388 C  
 Technician WOMACK (ROCK SPRINGS) Approved By MR. STEVE A. ROBINSON No. Reports Requested 13(11.x)



## BOTTOM HOLE PRESSURE AND TIME DATA

INSTRUMENT NO.: J-544

CAPACITY (P.S.I.): 9000#

DEPTH 10648

FT.

PORT OPENING: OUTSIDE

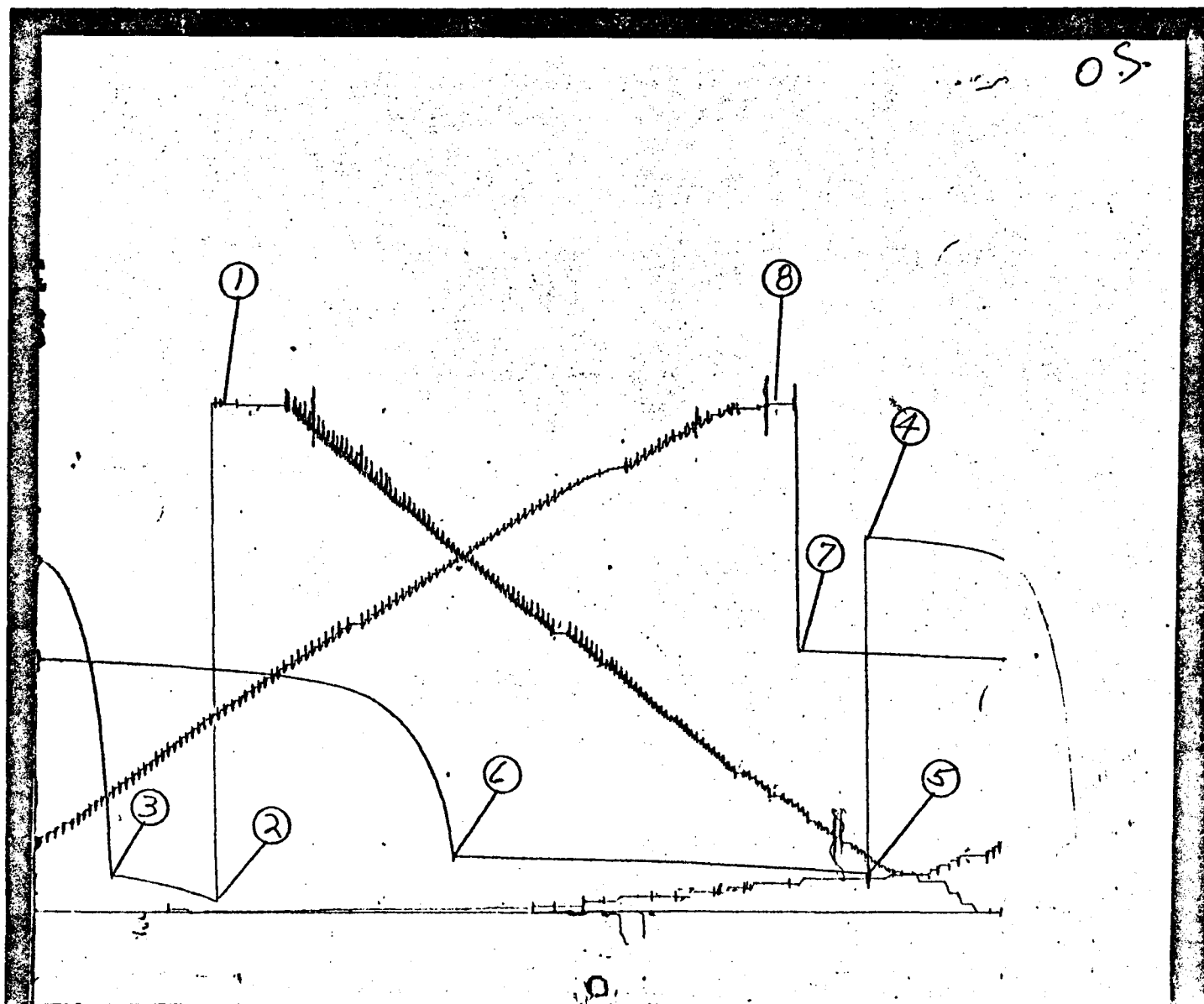
BOTTOM HOLE TEMP.: 208°F.

FIELD REPORT NO. 14388 C

DESCRIPTION	LABELED POINTS	PRESSURE (P.S.I.)	GIVEN TIME	COMPUTED TIME
INITIAL HYDROSTATIC MUD	1	5641.4		
INITIAL FLOW (1)	2	150.7		
INITIAL FLOW (2)	3	423.8	30	
INITIAL SHUT-IN	4	4169.3	60	
SECOND FLOW (1)				
SECOND FLOW (2)				
SECOND SHUT-IN				
FINAL FLOW (1)	5	456.8		
FINAL FLOW (2)	6	640.2	120	
FINAL SHUT-IN	7	2915.3	180	
FINAL HYDROSTATIC MUD	8	5641.4		

REMARKS:

13-



**JOHNSTON**

P.O. BOX 36369 • HOUSTON, TEXAS

**CONFIRMATION OF TECHNICAL REPORT DISTRIBUTION**

**CUSTOMER** ENERGETICS, INC. **FIELD REPORT NO.** 14388 C **DATE** 1-29-77  
**COMPANY** SAME **LEASE** WEBER COAL **WELL NO.** 13-3  
**COUNTY** SUMMIT **STATE** UTAH **FIELD** WILD CAT

JOHNSTON TESTERS HAS BEEN REQUESTED TO FURNISH THE FOLLOWING COMPANIES WITH TECHNICAL REPORTS.  
THIS DISTRIBUTION OF TECHNICAL REPORTS WILL BE USED FOR: ☒ ALL TESTS ON THIS WELL, ☐ THIS ONE TEST ONLY, UNLESS OTHERWISE NOTIFIED.

1 **TECHNICAL REPORT (S)**

FUELCO - FUEL RESOURCES DEVEL. CO.  
550 - 15TH STREET  
DENVER, COLORADO 80202

1 **TECHNICAL REPORT (S)**

3-M MINNESOTA MINING & MFG. CO.  
P.O. BOX 33327  
ST. PAUL, MINNESOTA 55133  
ATTN: MR PAUL JOHNSON

1 **TECHNICAL REPORT (S)**

PACIFIC POWER & LIGHT  
PUBLIC SERVICE BUILDING  
PORTLAND, OREGON 97204  
ATTN: MR GARY BOSHEARS

1 **TECHNICAL REPORT (S)**

PASCO - SINCLAIR OIL CORP.  
P.O. BOX 1677  
ENGLEWOOD, COLORADO 80110  
ATTN: MR DAVE DUBLER

1 **TECHNICAL REPORT (S)**

STATE OF UTAH  
DIVISION OF OIL & GAS & MINING  
1588 WEST N. TEMPLE  
SALT LAKE CITY, UTAH 84116

1

ENERGETICS, INC.  
333 WEST HAMPDEN AVE SUITE 1010  
ENGLEWOOD, COLORADO 80110

1 **TECHNICAL REPORT (S)**

TERENCE L. BRITT  
3280 BERNADA DRIVE  
SALT LAKE CITY, UTAH 84117

1 **TECHNICAL REPORT (S)**

IMPEL CORPORATION  
600 METROBANK BUILDING  
475 - 17TH STREET  
DENVER, COLORADO 80202

1 **TECHNICAL REPORT (S)**

TOM BROWN, INC.  
315 MIDLAND TOWER BUILDING  
P.O. BOX 2608  
MIDLAND, TEXAS 79701

1 **TECHNICAL REPORT (S)**

BROWNLIE, WALLACE, ARMSTRONG, BANDER  
SUITE 1420  
1660 LINCOLN STREET  
DENVER, COLORADO 80203

1 **TECHNICAL REPORT (S)**

BERCHMAN, J. MARY  
1010 PERE MARQUETTE BUILDING  
NEW ORLEANS, LOUISIANA 70112

2

AMOCO PROD. COMPANY  
SECURITY LIFE BUILDING  
DENVER, COLORADO 80202  
ATTN: BETH RAINBOLT

JOHNSTON

**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*  
DALLAS, TEXAS

PAGE NO. 1

COLO., ENERGETICS, FUELCO, IMPEL FORMATION : NUGGET  
NO. 13-3 WEBER COAL CO. DRLG. FLUID: WATER BASE MUD  
WILDCAT LOCATION : NW SW SEC 3 T2N-R5W  
SUMMIT COUNTY STATE : UTAH

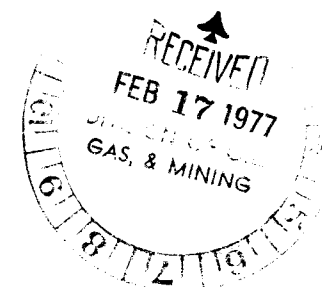
DATE : 2/13/77  
FILE NO. : RP-4-3956-01  
ANALYSTS : BOWEN  
ELEVATION: 6002 KB

CONVENTIONAL CORE ANALYSIS

PRELIMINARY REPORT

SAMP. NO.	DEPTH	PERM. TO HORZ.	AIR (MD) VERTICAL	POR. FLD.	FLUID SATS. OIL WATER	GR. DNS.	DESCRIPTION
1	11606 -7	0.13		9.6	1.0 71.9		SD, GY FG
2	11607 -8	0.50		6.1	1.6 46.1		SD, GY FG
3	11608 -9	0.07		6.7	1.5 56.7		SD, GY FG
4	11609-10	0.09		6.1	1.7 56.6		SD, GY FG
5	11610-11	0.04		5.2	2.0 64.1		SD, GY FG
6	11611-12	0.07		6.1	1.7 63.9		SD, GY FG
7	11612-13	0.05		6.2	1.6 71.7		SD, GY FG
8	11613-14	0.19		9.1	1.1 68.3		SD, TN FG
9	11614-15	0.07		7.3	1.4 64.2		SD, TN FG
10	11615-16	0.41		8.3	1.2 60.7		SD, TN FG
11	11616-17	7.2		13.1	0.7 77.2		SD, TN FG
12	11617-18	4.1		12.6	0.8 69.4		SD, TN FG
13	11618-19	32		16.9	0.5 67.5		SD, TN FG
14	11619-20	27		14.4	0.7 69.6		SD, TN FG
15	11620-21	5.1		11.4	0.9 70.9		SD, TN FG
16	11621-22	1.3		8.6	1.2 48.7		SD, TN FG
17	11622-23	1.2		11.3	0.9 68.8		SD, TN FG
18	11623-24	0.47		8.0	1.2 57.2		SD, GY FG
19	11624-25	0.23		9.1	1.1 42.8		SD, GY FG
20	11625-26	0.04		10.3	0.9 53.2		SD, TN FG
21	11626-27	0.13		8.9	1.1 40.0		SD, TN FG
22	11627-28	1.6		10.6	0.9 54.7		SD, TN FG
23	11628-29	0.07		6.2	1.6 55.4		SD, TN FG
24	11629-30	0.13		8.4	1.2 51.7		SD, TN FG

*Confidential*



These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*  
DALLAS, TEXAS

PAGE NO. 1

COLO.,ENERGETICS,FUELCO,IMPEL FORMATION : NUGGET  
NO. 13-3 WEBER COAL CO. DRLG. FLUID: WATER BASE MUD  
WILDCAT LOCATION : NW SW SEC 3 T2N-R5W  
SUMMIT COUNTY STATE : UTAH

DATE : 2/13/77  
FILE NO. : RP-4-3956-01  
ANALYSTS : BOWEN  
ELEVATION: 6002 KB

**CONVENTIONAL CORE ANALYSIS**

SAMP. NO.	DEPTH	PERM. TO AIR (MD) HORZ. VERTICAL	POR. FLD.	FLUID SATS. OIL WATER	GR. DNS.	DESCRIPTION	
1	11606 -7	0.13	9.6	1.0 71.9		SD, GY FG	VF
2	11607 -8	0.50	6.1	1.6 46.1		SD, GY FG	
3	11608 -9	0.07	6.7	1.5 56.7		SD, GY FG	
4	11609-10	0.09	6.1	1.7 56.6		SD, GY FG	
5	11610-11	0.04	5.2	2.0 64.1		SD, GY FG	VF
6	11611-12	0.07	6.1	1.7 63.9		SD, GY FG	VF
7	11612-13	0.05	6.2	1.6 71.7		SD, TN FG	VF
8	11613-14	0.19	9.1	1.1 68.3		SD, TN FG	VF
9	11614-15	0.07	7.3	1.4 64.2		SD, TN FG	VF
10	11615-16	0.41	8.3	1.2 60.7		SD, TN FG	VF
11	11616-17	7.2	13.1	0.7 77.2		SD, TN FG	VF
12	11617-18	4.1	12.6	0.8 69.4		SD, TN FG	VF
13	11618-19	32	16.9	0.5 67.5		SD, TN FG	
14	11619-20	27	14.4	0.7 69.6		SD, TN FG	
15	11620-21	5.1	11.4	0.9 70.9		SD, TN FG	
16	11621-22	1.3	8.6	1.2 48.7		SD, TN FG	
17	11622-23	1.2	11.3	0.9 68.8		SD, TN FG	
18	11623-24	0.47	8.0	1.2 57.2		SD, GY FG	
19	11624-25	0.23	9.1	1.1 42.8		SD, TN FG	
20	11625-26	0.04	10.3	0.9 53.2		SD, TN FG	
21	11626-27	0.13	8.9	1.1 40.0		SD, TN FG	
22	11627-28	1.6	10.6	0.9 54.7		SD, TN FG	
23	11628-29	0.07	6.2	1.6 55.4		SD, TN FG	
24	11629-30	0.13	8.4	1.2 51.7		SD, TN FG	

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

COMPANY COLO. ENERGETICS FUEL CO IMPEL FIELD WILDCAT FILE RR-4-3956  
WELL NO. 13-3 WEBER COAL CO. COUNTY SUMMIT DATE 2-13-77  
LOCATION NW SW SEC 3 T2N R5W STATE UTAH ELEV. 6002 KB

**CORE-GAMMA CORRELATION**

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted), but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representation as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'

**CORE-GAMMA SURFACE LOG**

(PATENT APPLIED FOR)

GAMMA RAY

RADIATION INCREASE →

**COREGRAPH**

TOTAL WATER

PERCENT TOTAL WATER

80 60 40 20 0

PERMEABILITY

MILLIDARCYS

100 50 10 5 1

POROSITY

PERCENT

20 10

OIL SATURATION

PERCENT PORE SPACE

0 20 40 60 80

11606

11630

CL-589

**CORE SUMMARY AND CALCULATED RECOVERABLE OIL**

FORMATION NAME AND DEPTH INTERVAL:

NUGGET 11606.0 - 11630.0 FeetFEET OF CORE RECOVERED FROM  
ABOVE INTERVAL

24

AVERAGE TOTAL WATER SATURATION:  
PER CENT OF PORE SPACE

60.5

FEET OF CORE  
INCLUDED IN AVERAGES

24

AVERAGE CONNATE WATER SATURATION:  
PER CENT OF PORE SPACEAVERAGE PERMEABILITY:  
MILLIDARCYS

3.4

OIL GRAVITY: °API

PRODUCTIVE CAPACITY:  
MILLIDARCY-Feet

82.2

ORIGINAL SOLUTION GAS-OIL RATIO:  
CUBIC FEET PER BARREL

AVERAGE POROSITY: PER CENT

9.2

ORIGINAL FORMATION VOLUME FACTOR: BARRELS  
SATURATED OIL PER BARREL STOCK-TANK OILAVERAGE RESIDUAL OIL SATURATION:  
PER CENT OF PORE SPACE

1.2

CALCULATED ORIGINAL STOCK-TANK OIL IN PLACE:  
BARRELS PER ACRE-FOOT

Calculated maximum solution gas drive recovery is \_\_\_\_\_ barrels per acre-foot, assuming production could be continued until reservoir pressure declined to zero psig. Calculated maximum water drive recovery is \_\_\_\_\_ barrels per acre-foot, assuming full maintenance of original reservoir pressure, 100% areal and vertical coverage, and continuation of production to 100% water cut. (Please refer to footnotes for further discussion of recovery estimates.)

(c) Calculated (e) Estimated (m) Measured (\*) Refer to attached letter.

**INTERPRETATION OF DATA**

11606.0-11630.0 feet - Gas and condensate productive after successful artificial simulation.

These recovery estimates represent theoretical maximum values for solution gas and water drive. They assume that production is started at original reservoir pressure; i.e., no account is taken of production to date or of prior drainage to other areas. The effects of factors tending to reduce actual ultimate recovery, such as economic limits on oil production rates, gas-oil ratios, or water-oil ratios, have not been taken into account. Neither have factors been considered which may result in actual recovery intermediate between solution gas and complete water drive recoveries, such as gas cap expansion, gravity drainage, or partial water drive. Detailed predictions of ultimate oil recovery to specific abandonment conditions may be made in an engineering study in which consideration is given to overall reservoir characteristics and economic factors.

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc., and its officers and employees, assume no responsibility and make no warranty or representation as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

# CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming 82601

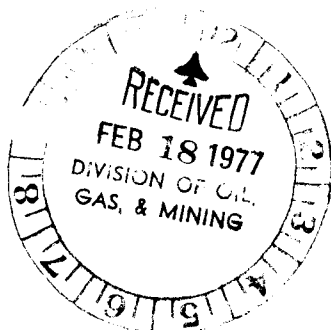
## GAS ANALYSIS REPORT

Company Energetics, Inc. Date February 2, 1977 Lab. No. 22541  
Well No. Weber Coal 13-3 Location \_\_\_\_\_  
Field Wildcat Formation Twin Creek  
County Summit Depth 10636-10905  
State Utah Sampling point DST No. 1  
Line pressure \_\_\_\_\_ psig; Sample pressure 0 psig; Temperature \_\_\_\_\_ ° F; Container number Chem Lab  
Remarks Sampled January 30, 1977  
Note: No pressure on container.

Component	Mole % or Volume %	
Oxygen.....	0	
Nitrogen.....	75.49	
Carbon dioxide.....	0	
Hydrogen sulfide.....	*	
Methane.....	16.97	
Ethane.....	1.83	Gallons per MCF
Propane.....	1.68	0.461
Iso-butane.....	0.77	0.251
N-butane.....	1.29	0.406
Iso-pentane.....	0.75	0.274
N-pentane.....	0.46	0.166
Hexanes & higher.....	0.76	0.350
Total.....	100.00	1.908

GPM of pentanes & higher fraction..... 0.790  
Gross btu/cu. ft. @60° F. & 14.7 psia (dry basis)..... 404  
Specific gravity (calculated from analysis)..... 0.966  
Specific gravity (measured)..... 0.968

Remarks: \*  $H_2S$  = Negative to lead acetate paper.



## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

## WATER ANALYSIS REPORT

CONFIDENTIAL

OPERATOR Energetics, Inc. DATE July 14, 1977 LAB NO. 24209-1  
 WELL NO. Weber Coal Co. 13-3 LOCATION NW SW 3-2N-5E  
 FIELD Wildcat FORMATION \_\_\_\_\_  
 COUNTY Summit INTERVAL \_\_\_\_\_  
 STATE Utah SAMPLE FROM Control manifold (6/24/77)

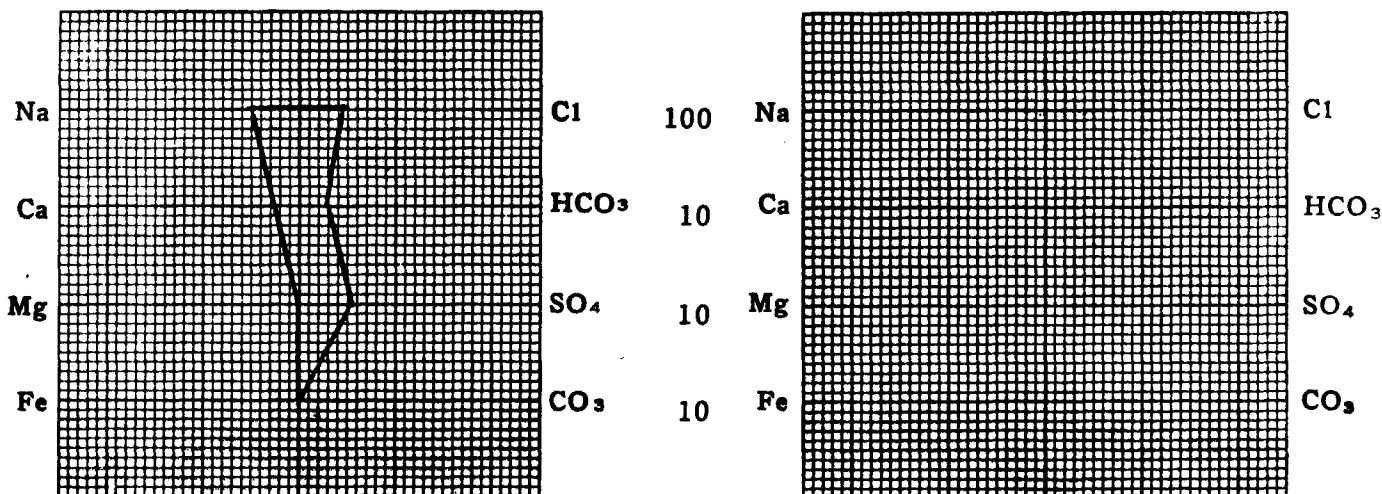
## REMARKS &amp; CONCLUSIONS:

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	11046	480.52	Sulfate	2550	53.04
Potassium	710	18.18	Chloride	15700	442.74
Lithium			Carbonate		
Calcium	467	23.30	Bicarbonate	1769	29.01
Magnesium	34	2.79	Hydroxide		
Iron	-		Hydrogen sulfide		
Total Cations		524.79	Total Anions		524.79
Total dissolved solids, mg/l	31378		Specific resistance @ 68°F.:		
NaCl equivalent, mg/l	29720		Observed	0.25	ohm-meters
Observed pH	7.1		Calculated	0.23	ohm-meters

## WATER ANALYSIS PATTERN

Scale  
MEQ per Unit

Sample above described



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter

Sodium chloride equivalent=by Dunlap &amp; Hawthorne calculation from components



## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

## WATER ANALYSIS REPORT

OPERATOR	Energetics, Inc.	DATE	February 24, 1977	LAB NO.	22702-1
WELL NO.	Weber Coal 13-3	LOCATION			
FIELD	Wildcat	FORMATION			
COUNTY	Summit	INTERVAL	10631-11630		
STATE	Utah	SAMPLE FROM	DST No. 5 (Sampler)		

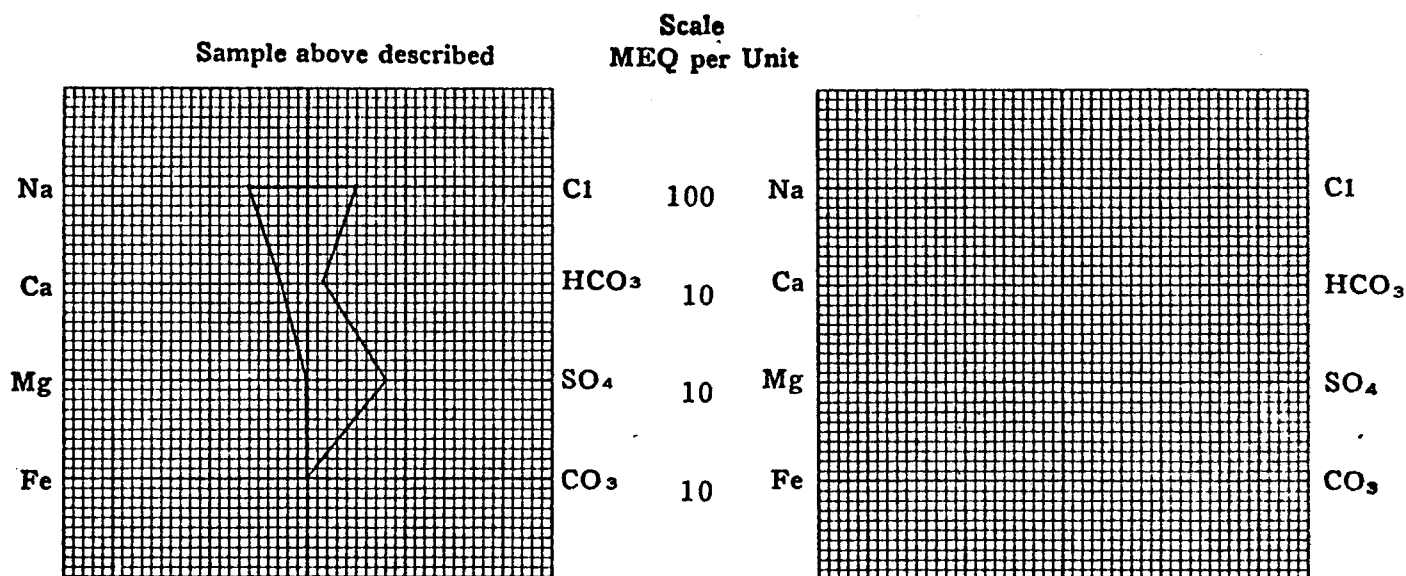
REMARKS & CONCLUSIONS: Sample No. 3; No. 1, Chloride, mg/l - - - - - 41600  
 Sample No. 4; No. 2, Chloride, mg/l - - - - - 37400  
 Sample No. 5; No. 3, Chloride, mg/l - - - - - 37000  
 Sample No. 6; No. 4, Chloride, mg/l - - - - - 32200  
 Sample No. 7; No. 5, Chloride, mg/l - - - - - 27800

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	13537	588.85	Sulfate	3780	78.62
Potassium	494	12.65	Chloride	19000	535.80
Lithium			Carbonate	-	
Calcium	531	26.50	Bicarbonate	1049	17.20
Magnesium	44	3.62	Hydroxide		
Iron	-		Hydrogen sulfide	-	
Total Cations		631.62	Total Anions		631.62

Total dissolved solids, mg/l - - - - - 37903  
 NaCl equivalent, mg/l - - - - - 35797  
 Observed pH - - - - - 7.8

Specific resistance @ 68°F.:  
 Observed - - - - - 0.20 ohm-meters  
 Calculated - - - - - 0.19 ohm-meters

## WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter  
 Sodium chloride equivalent=by Dunlap & Hawthorne calculation from components

## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794

Casper, Wyoming

## WATER ANALYSIS REPORT

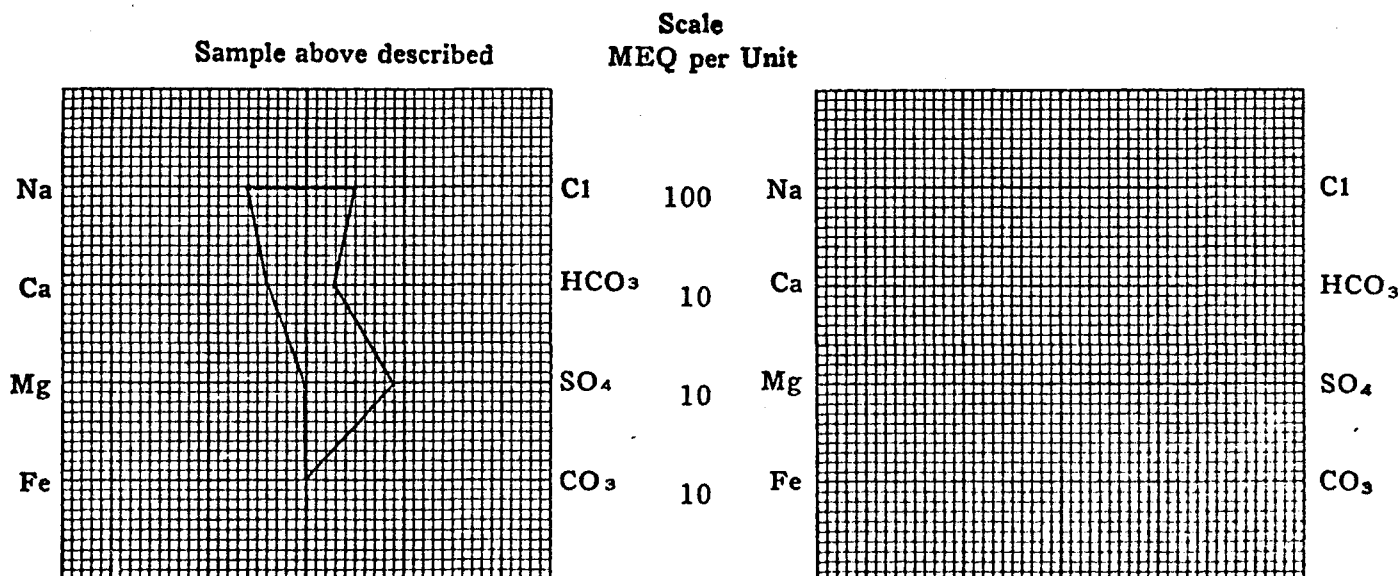
OPERATOR	Energetics, Inc.	DATE	February 24, 1977	LAB NO.	22702-2
WELL NO.	Weber Coal 13-3	LOCATION			
FIELD	Wildcat	FORMATION			
COUNTY	Summit	INTERVAL	10631-11630		
STATE	Utah	SAMPLE FROM	DST No. 5 (Sample No. 10)		

REMARKS & CONCLUSIONS:	Sample No. 8;	No. 6, Chloride, mg/l	- - - - -	27200
	Sample No. 9;	No. 7, Chloride, mg/l	- - - - -	23800
	Sample No.10;	No. 8, Chloride, mg/l	- - - - -	21200
	Sample No.11;	No. 9, Chloride, mg/l	- - - - -	20600
	Sample No.12;	Pit mud, Chloride, mg/l	- - - - -	35000

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	13827	601.49	Sulfate	4400	91.52
Potassium	526	13.47	Chloride	19000	535.80
Lithium			Carbonate	-	
Calcium	779	38.87	Bicarbonate	1757	28.81
Magnesium	28	2.30	Hydroxide		
Iron	-		Hydrogen sulfide	Present	
Total Cations		656.13	Total Anions		656.13

Total dissolved solids, mg/l	39425	Specific resistance @ 68°F.:	
NaCl equivalent, mg/l	36823	Observed	0.21 ohm-meters
Observed pH	7.1	Calculated	0.19 ohm-meters

## WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter

Sodium chloride equivalent=by Dunlap &amp; Hawthorne calculation from components



Scott M. Matheson  
*Governor*

OIL, GAS, AND MINING BOARD

GORDON E. HARMSTON  
*Executive Director,*  
NATURAL RESOURCES

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS, AND MINING  
1588 West North Temple  
Salt Lake City, Utah 84116  
(801) 533-5771  
February 23, 1977

GUY N. CARDON  
*Chairman*

CHARLES R. HENDERSON  
ROBERT R. NORMAN  
I. DANIEL STEWART  
HYRUM L. LEE

CLEON B. FEIGHT  
*Director*

Colorado Energetics, Inc.  
333 West Hampden Ave.  
Englewood, Colorado 80110

Re: WELL NO. WEBER COAL CO. 13-3  
Sec. 3, T. 2N, R. 5E  
Summit County, Utah

Gentlemen:

It has been brought to my attention that the above mentioned well is "tight hole" information.

Since receipt of your "Application to Drill" dated May 10, 1976, there has'nt been any request to hold this information confidential.

In order to keep our records accurate and complete, and to avoid any confusion, please write this office a letter requesting that this data be withheld from open file.

Your prompt attention to the above will be greatly appreciated.

Sincerely,

DIVISION OF OIL, GAS, AND MINING

KATHY OSTLER  
RECORDS CLERK

/ko

CONFIDENTIAL

JOHNSTON

Schlumberger

technical  
report

## EQUIPMENT & HOLE DATA

Type Test \_\_\_\_\_ M.F.E. CASING

Formation Tested \_\_\_\_\_ DINWOODY

Elevation \_\_\_\_\_ 5980 K.B. \_\_\_\_\_ Ft.

Net Productive Interval \_\_\_\_\_ 10 \_\_\_\_\_ Ft.

Estimated Porosity \_\_\_\_\_ 4 \_\_\_\_\_ %

All Depths Measured From \_\_\_\_\_ KELLY BUSHING

Total Depth \_\_\_\_\_ 17,000+ \_\_\_\_\_ Ft.

Main Hole/Casing Size \_\_\_\_\_ 6 $\frac{1}{2}$ "

Rat Hole/Liner Size \_\_\_\_\_ -

Drill Collar Length \_\_\_\_\_ 621' I.D. 1.75"

Drill Pipe Length \_\_\_\_\_ 14875' I.D. 2.6"

Packer Depth(s) \_\_\_\_\_ 15496 & 15500 \_\_\_\_\_ Ft.

Sampler Pressure 10 P.S.I.G. at Surface

Recovery: Cu. Ft. Gas -

cc. Oil -

cc. Water -

cc. Mud 2200

Tot. Liquid cc. 2200

Gravity - °API @ - °F.

Gas/Oil Ratio - cu. ft./bbl.

	RESISTIVITY	CHLORIDE CONTENT
Recovery Water	- @ - °F.	- ppm
Recovery Mud	.5 @ 59 °F.	
Recovery Mud Filtrate	.5 @ 58 °F.	700 ppm
Mud Pit Sample	.5 @ 58 °F.	
Mud Pit Sample Filtrate	.5 @ 58 °F.	700 ppm

Mud Type POLYMER Wt. 8.8  
Viscosity 61 Water Loss 60 C.C.  
Resist. of Mud .5 @ 58 °F. of Filtrate .5 @ 58 °F.  
Chloride Content 700 PPM

[illegible]

Remarks: UNSUCCESSFUL TEST; PACKER SEAT FAILURE.

Address 333 WEST HAMPDEN AVENUE; ENGLEWOOD, COLORADO 80110

Company ENERGETICS, INC. Field WILD CAT  
WEBER COAL CO. #13-3 Location SEC. 3, T2N, R5E 6-13-77

Well \_\_\_\_\_  
Test Interval 15,500' TO 15,876' (UNSUCCESSFUL) Test # 6 Date 6-17-77

County SUMMIT State UTAH  
Technician SIMPER (ROCK SPRINGS) Test Approved By MR. STEVE H. ROBINSON

Field Report No. 09406 D  
No. Reports Requested 18 (10X)

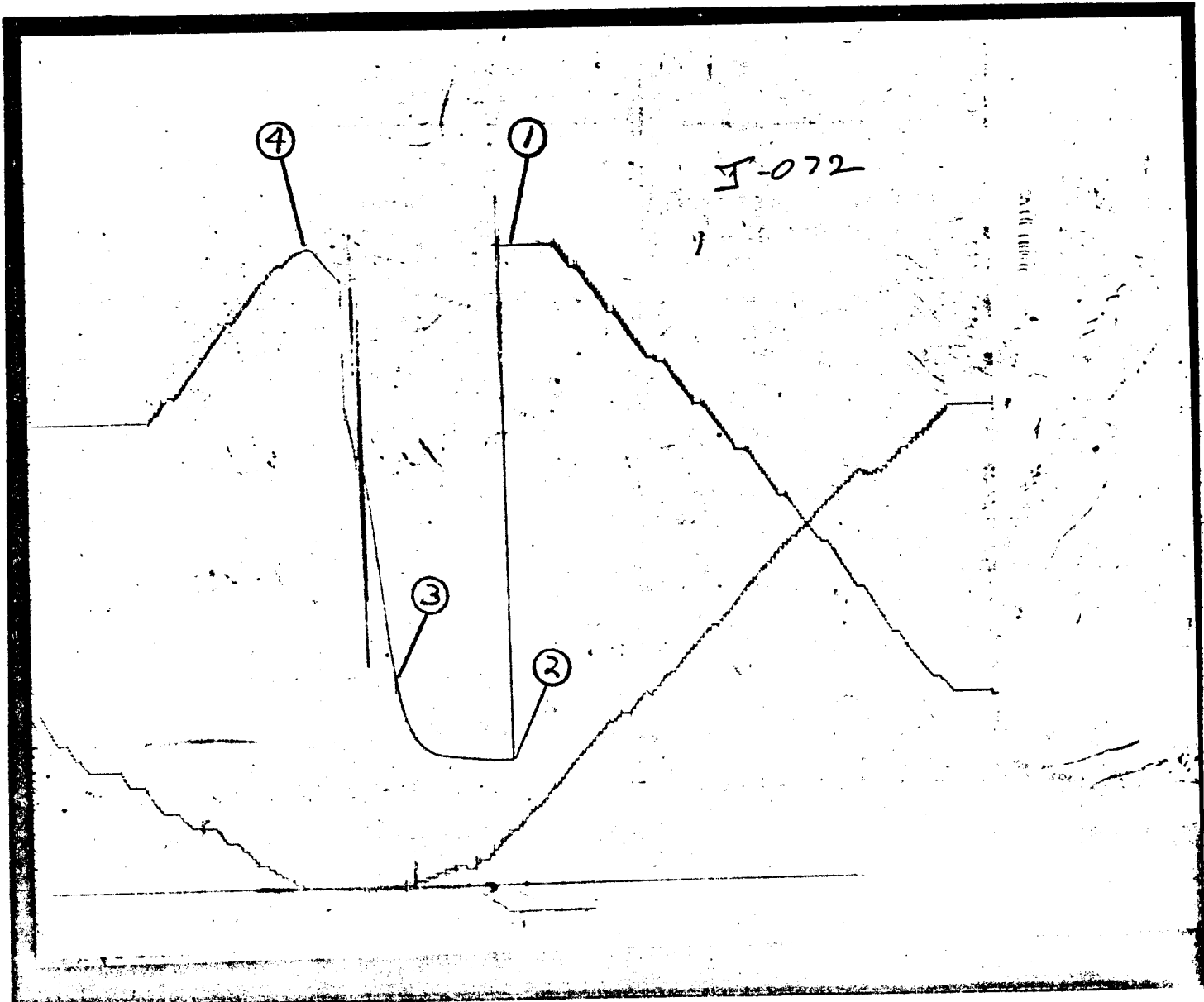
BOTTOM HOLE PRESSURE AND TIME DATA

INSTRUMENT NO.: J-072      CAPACITY (P.S.I.): 9000#      DEPTH 15479      FT.  
PORT OPENING: INSIDE      BOTTOM HOLE TEMP.: 282°F.      FIELD REPORT NO. 09406 D

DESCRIPTION	LABELED POINTS	PRESSURE (P.S.I.)	GIVEN TIME	COMPUTED TIME
INITIAL HYDROSTATIC MUD	1	7058.0		
INITIAL FLOW (1)				
INITIAL FLOW (2)				
INITIAL SHUT-IN				
SECOND FLOW (1)				
SECOND FLOW (2)				
SECOND SHUT-IN				
FINAL FLOW (1)				
FINAL FLOW (2)				
FINAL SHUT-IN				
FINAL HYDROSTATIC MUD	4	7050.8		
	2	1413.3		
	3	2372.6		

REMARKS: UNSUCCESSFUL TEST

18+



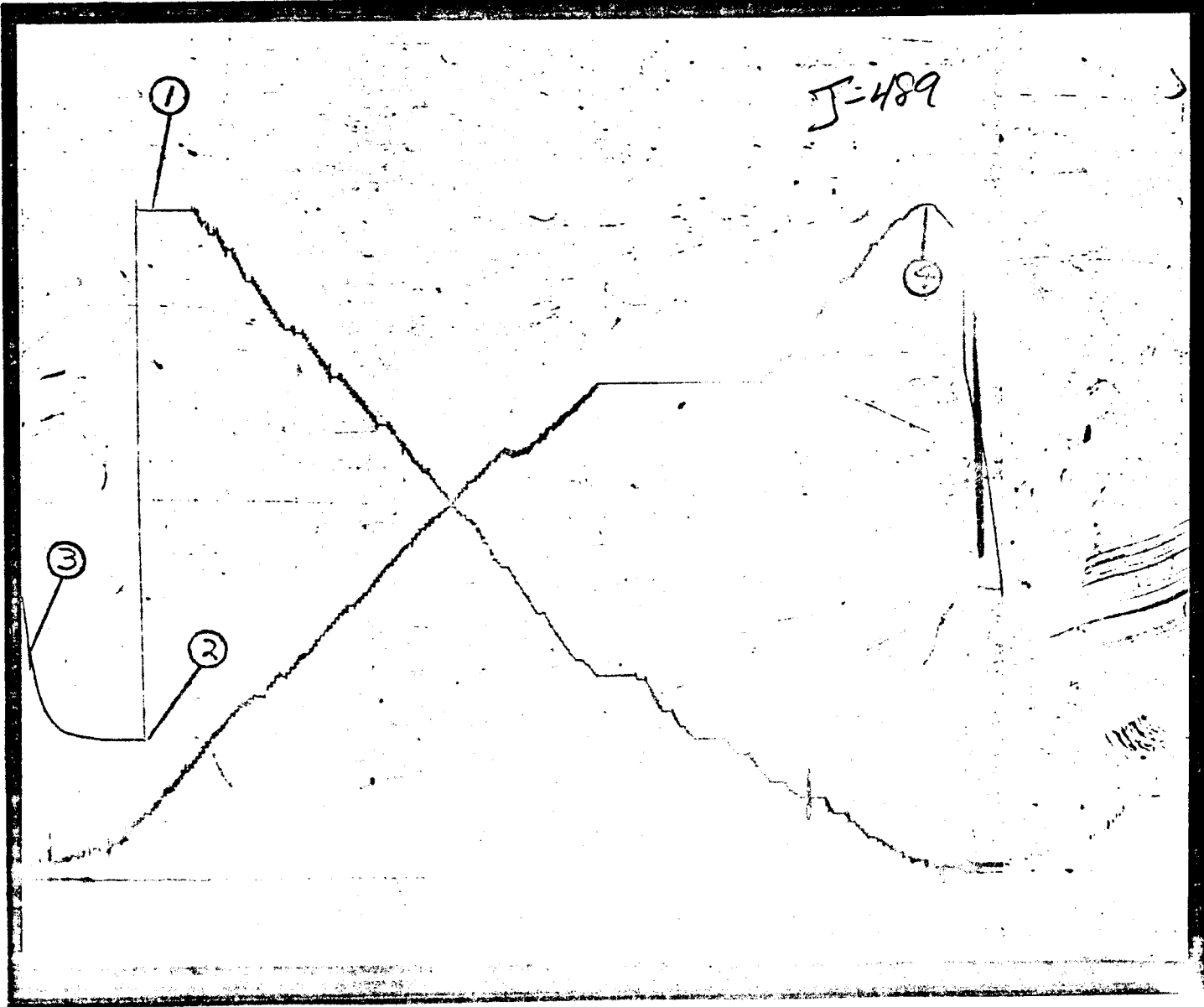
BOTTOM HOLE PRESSURE AND TIME DATA

INSTRUMENT NO.: J-489                      CAPACITY (P.S.I.): 9000#                      DEPTH 15514                      FT.

PORT OPENING: OUTSIDE    BOTTOM HOLE TEMP.: 282°F.                      FIELD REPORT NO. 09406 D

DESCRIPTION	LABELED POINTS	PRESSURE (P.S.I.)	GIVEN TIME	COMPUTED TIME
INITIAL HYDROSTATIC MUD	1	7134.0		
INITIAL FLOW (1)				
INITIAL FLOW (2)				
INITIAL SHUT-IN				
SECOND FLOW (1)				
SECOND FLOW (2)				
SECOND SHUT-IN				
FINAL FLOW (1)				
FINAL FLOW (2)				
FINAL SHUT-IN				
FINAL HYDROSTATIC MUD	4	7109.3		
	2	1467.8		
REMARKS: UNSUCCESSFUL TEST	3	2407.4		

18+





**JOHNSTON**

P.O. BOX 36369 • HOUSTON, TEXAS

REVISED

**CONFIRMATION OF TECHNICAL REPORT DISTRIBUTION**

**CUSTOMER** ENERGETICS, INC. **FIELD REPORT NO.** 09406 D **DATE** 6-17-77  
**COMPANY** SAME AS ABOVE **LEASE** WEBER COAL CO. **WELL NO.** 13-3  
**COUNTY** SUMMIT **STATE** UTAH **FIELD** WILD CAT

JOHNSTON TESTERS HAS BEEN REQUESTED TO FURNISH THE FOLLOWING COMPANIES WITH TECHNICAL REPORTS.  
THIS DISTRIBUTION OF TECHNICAL REPORTS WILL BE USED FOR: ☒ ALL TESTS ON THIS WELL, ☐ THIS ONE TEST ONLY, UNLESS OTHERWISE NOTIFIED.

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IMPEL CORPORATION  
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475 - 17TH STREET  
DENVER, COLORADO 80202

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TOM BROWN, INC.  
315 MIDLAND TOWER BUILDING  
BOX 2608  
MIDLAND, TEXAS 79701

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DENVER, COLORADO 80203

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NEW ORLEANS, LOUISIANA 70112

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SECURITY LIFE BUILDING  
DENVER, COLORADO 80202  
ATTN: BETH RAINBOLT

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FUEL RESOURCES DEVELOPMENT  
550 - 15TH STREET  
DENVER, COLORADO 80202

1 **TECHNICAL REPORT (S)**

MINNESOTA MINING & MFG. COMPANY  
BOX 33327  
ST. PAUL, MINNESOTA 55133  
ATTN: MR. PAUL JOHNSON

1 **TECHNICAL REPORT (S)**

MR. GARY BOSHEARS  
PACIFIC POWER & LIGHT COMPANY  
PUBLIC SERVICE BUILDING  
PORTLAND, OREGON 97204

1 **TECHNICAL REPORT (S)**

SINCLAIR OIL CORPORATION  
BOX 1677  
ENGLEWOOD, COLORADO 80110  
ATTN: MR. CLAIR MOYLE

2 **TECHNICAL REPORT (S)**

ENERGETICS, INC.  
333 WEST HAMPDEN AVENUE; SUITE 1010  
ENGLEWOOD, COLORADO 80110

2 **TECHNICAL REPORT (S)**

STATE OF UTAH - DIVISION OF OIL & GAS & MINING  
1588 WEST NORTH TEMPLE  
SALT LAKE CITY, UTAH 84116

IT IS OUR PLEASURE TO BE OF SERVICE.

JOHNSTON

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**JOHNSTON**

**Schlumberger**

**technical  
report**

**COMPANY** ENERGETICS, INC.

**WELL** WEBER COAL #13-3

**TEST NO.** 5

**COUNTY**

**SUMMIT**

**STATE** UTAH

## EQUIPMENT & HOLE DATA

Type Test	M. F. E. OPEN HOLE		
Formation Tested	-		
Elevation	-		Ft.
Net Productive Interval	-		Ft.
Estimated Porosity	-		%
All Depths Measured From	KELLY BUSHING		
Total Depth	11630		Ft.
Main Hole/Casing Size	8 1/2"		
Rat Hole/Liner Size	-		
Drill Collar Length	626'	I.D.	-
Drill Pipe Length	9875'	I.D.	-
Packer Depth(s)	10531 & 10631		Ft.

Sampler Pressure 60 P.S.I.G. at Surface

Recovery: Cu. Ft. Gas -

cc. Oil -

cc. Water 2400

cc. Mud (UNDETERMINED AMOUNT)

Tot. Liquid cc. 2400

Gravity - °API @ - °F.

Gas/Oil Ratio - cu. ft./bbl.

	RESISTIVITY	CHLORIDE CONTENT
Recovery Water	<u>.25 @ 63</u> °F.	<u>21,500</u> ppm
Recovery Mud	<u>.12 @ 62</u> °F.	
Recovery Mud Filtrate	<u>.10 @ 60</u> °F.	<u>53,000</u> ppm
Mud Pit Sample	<u>.12 @ 60</u> °F.	
Mud Pit Sample Filtrate	<u>.10 @ 58</u> °F.	<u>53,000</u> ppm

Mud Type	-	Wt.	9.3
Viscosity	39	Water Loss	9
Resist. of Mud	.12 @ 60 °F.	of Filtrate	.10 @ 58 °F
Chloride Content	53,000		PPM

[illegible]

Address 333 WEST HAMPDEN; SUITE 1010; ENGLEWOOD, COLORADO 80110

Company ENERGETICS, INC.

Company WEBER COAL #13-3

Well \_\_\_\_\_ 10631' TO 11630'

Test Interval 10631 10 11030

County SUMMIT State UTAH

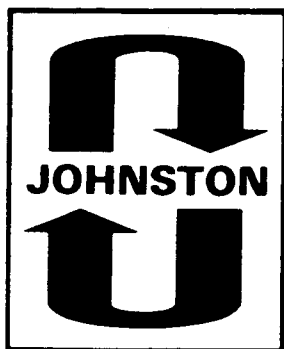
County SUMMIT State OHIO  
Technician DUNN (ROCK SPRINGS) Test Approved By MR STEVE A. ROBINSON

Field WILD CAT

Date 2-15-77

Field Report No. 10961 C

Field Report No. \_\_\_\_\_  
No. Reports Requested 13 (11x)



# PRESSURE LOG\*

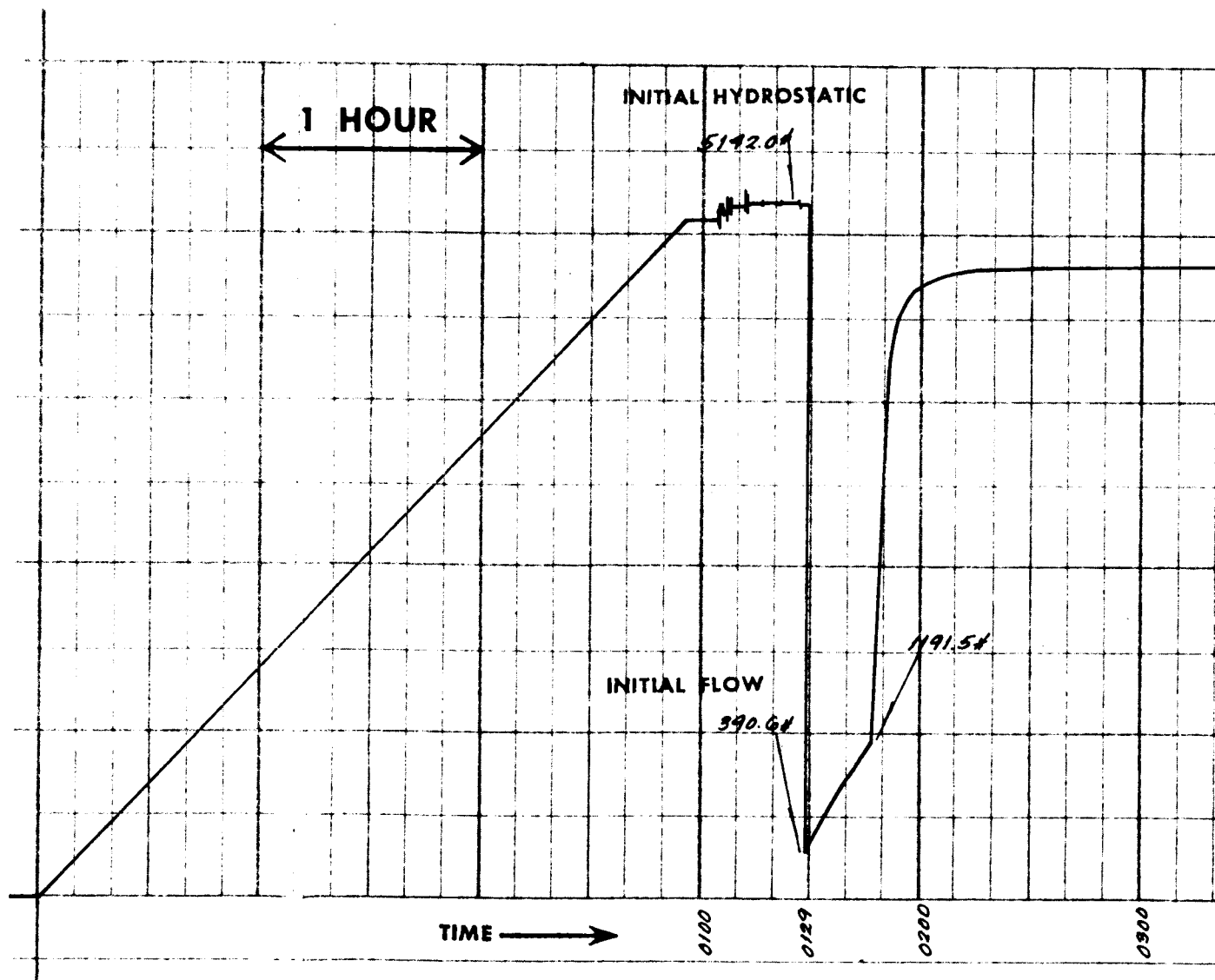
Field Report No. 10961 C

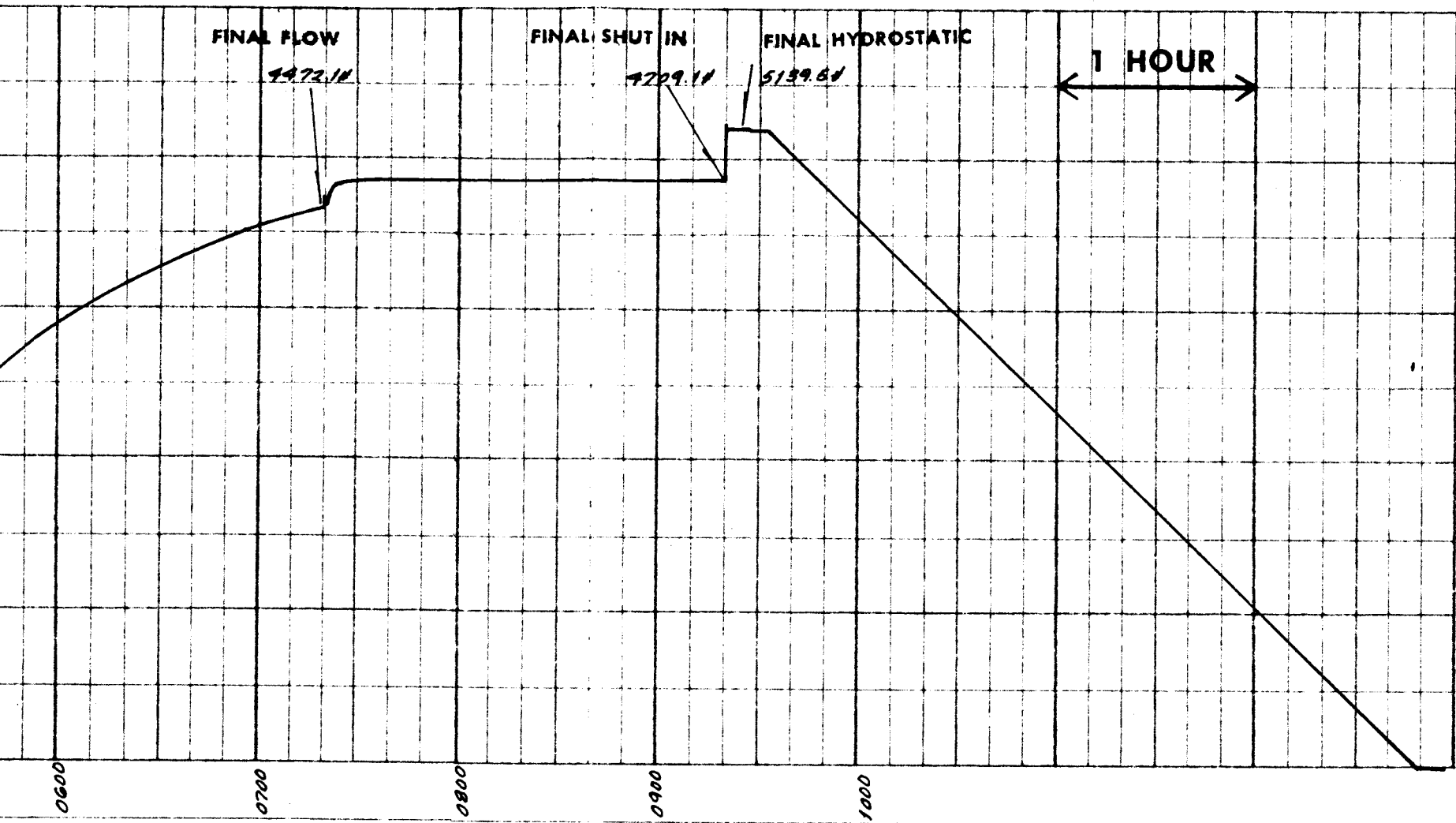
Instrument:  
Number J-443

Capacity 6400 p.s.i.

Depth 10642 ft.

\*a continuous tracing of the original chart





PAGE NO. 2

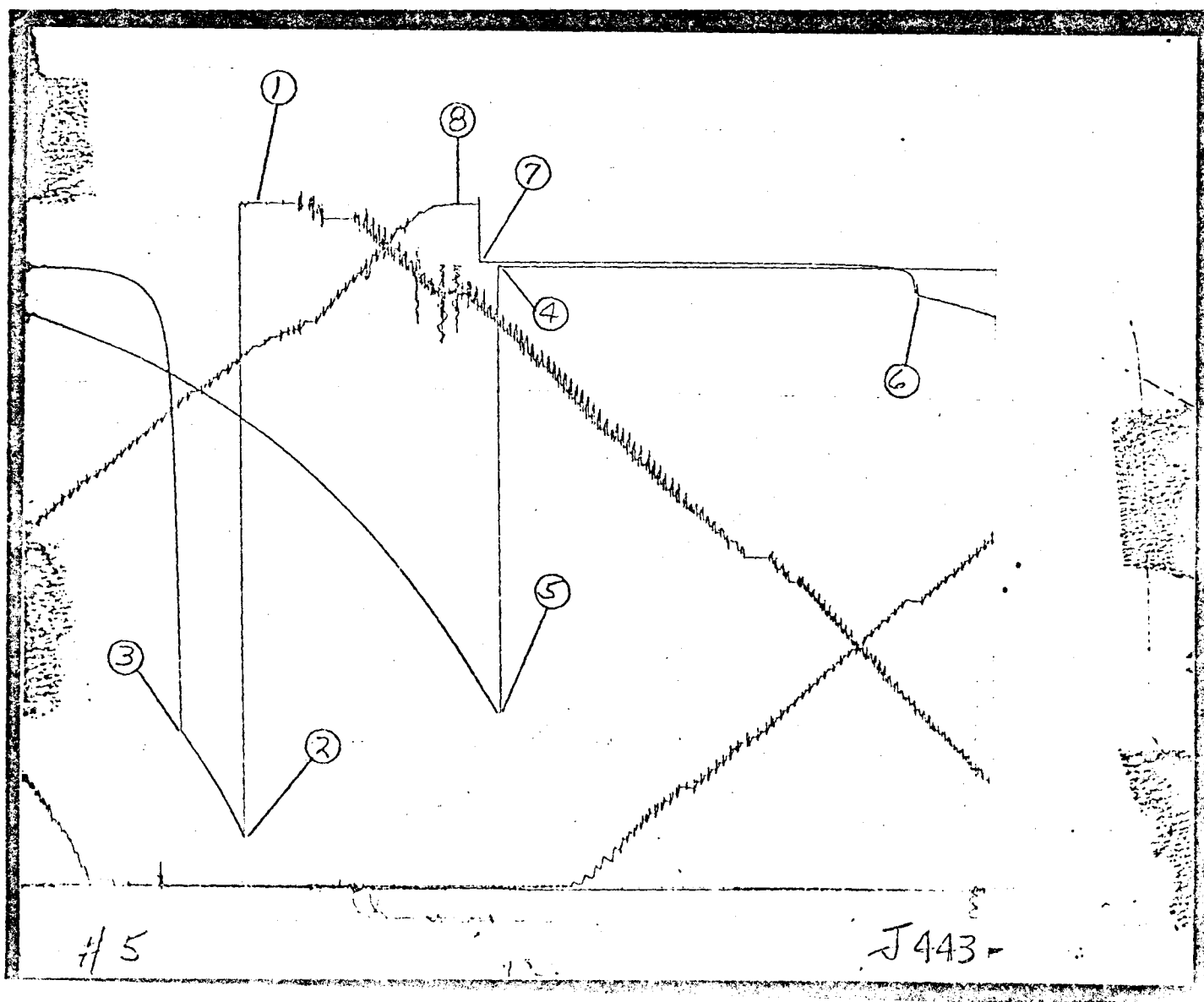
FIELD REPORT NO.: 10961 C

INSTRUMENT NO.: J-443

CAPACITY: 6400#

NO. OF REPORTS: 13-

PRESSURE DATA FROM THIS CHART IS PRESENTED ON NEXT PAGE



INSTRUMENT NO.: J-443

CAPACITY(P.S.I.): 6400

DEPTH: 10642 FT.

PORT OPENING: OUTSIDE

BOTTOM HOLE TEMP.: 224

PAGE 1 OF 2

DESCRIPTION	LABELED POINTS	PRESSURE (P.S.I.)	GIVEN TIME	COMPUTED TIME
INITIAL HYDROSTATIC MUD	1	5142.0		
INITIAL FLOW(1)	2	390.6		
INITIAL FLOW(2)	3	1191.5	16	17
INITIAL SHUT-IN	4	4675.4	180	180
FINAL FLOW(1)	5	1341.1		
FINAL FLOW(2)	6	4472.1	153	153
FINAL SHUT-IN	7	4709.1	121	121
FINAL HYDROSTATIC MUD	8	5139.5		

## INCREMENTAL READINGS

LABEL POINT	DELTA TIME	PRESSURE (P.S.I.)	T + DT/DT	LOG	PW - PF (P.S.I.)	COMMENTS
1		5142.0				HYDROSTATIC MUD
2	0	390.6				INITIAL FLOW(1)
	10	894.6				
3	17	1191.5				INITIAL FLOW(2)
3	0	1191.5				STARTED SHUT-IN
	10	4480.8	2.700	0.431	3289.4	
	20	4618.1	1.850	0.267	3426.6	
	30	4651.7	1.567	0.195	3460.3	
	40	4661.7	1.425	0.154	3470.3	
	50	4666.7	1.340	0.127	3475.3	
	60	4669.2	1.283	0.108	3477.8	
	70	4671.7	1.243	0.094	3480.2	
	80	4672.9	1.213	0.084	3481.5	
	90	4672.9	1.189	0.075	3481.5	
	100	4672.9	1.170	0.068	3481.5	
	110	4674.2	1.155	0.062	3482.7	
	120	4675.4	1.142	0.058	3484.0	
	130	4675.4	1.131	0.053	3484.0	
	140	4675.4	1.121	0.050	3484.0	
	150	4675.4	1.113	0.047	3484.0	
	160	4675.4	1.106	0.044	3484.0	
	170	4675.4	1.100	0.041	3484.0	
4	180	4675.4	1.094	0.039	3484.0	INITIAL SHUT-IN
5	0	1341.1				FINAL FLOW(1)
	10	1735.3				
	20	2129.5				
	30	2478.8				
	40	2784.4				
	50	3055.1				
	60	3293.3				
	70	3499.1				
	80	3678.8				
	90	3839.7				
	100	3978.1				
	110	4097.9				



LABEL POINT	DELTA TIME	PRESSURE (P.S.I.)	T + DT/DT	LOG	PW - PF (P.S.I.)	COMMENTS
	120	4206.4				
	130	4301.2				
	140	4384.8				
	150	4455.9				
6	153	4472.1				FINAL FLOW(2) STARTED SHUT-IN
6	0	4472.1				
	1	4500.8	154.000	2.188	28.7	
	2	4616.8	77.500	1.889	144.7	
	3	4640.5	52.000	1.716	168.4	
	4	4654.2	39.250	1.594	182.1	
	5	4663.0	31.600	1.500	190.9	
	6	4669.2	26.500	1.423	197.1	
	7	4674.2	22.857	1.359	202.1	
	8	4677.9	20.125	1.304	205.8	
	9	4681.7	18.000	1.255	209.6	
	10	4684.2	16.300	1.212	212.1	
	12	4687.9	13.750	1.138	215.8	
	14	4691.7	11.929	1.077	219.5	
	16	4694.2	10.562	1.024	222.0	
	18	4696.6	9.500	0.978	224.5	
	20	4697.9	8.650	0.937	225.8	
	22	4699.1	7.955	0.901	227.0	
	24	4700.4	7.375	0.868	228.3	
	26	4700.4	6.885	0.838	228.3	
	28	4701.6	6.464	0.811	229.5	
	30	4701.6	6.100	0.785	229.5	
	35	4702.9	5.371	0.730	230.8	
	40	4704.1	4.825	0.683	232.0	
	45	4705.4	4.400	0.643	233.3	
	50	4706.6	4.060	0.609	234.5	
	55	4707.9	3.782	0.578	235.8	
	60	4707.9	3.550	0.550	235.8	
	65	4707.9	3.354	0.526	235.8	
	70	4707.9	3.186	0.503	235.8	
	75	4707.9	3.040	0.483	235.8	
	80	4709.1	2.912	0.464	237.0	
	85	4709.1	2.800	0.447	237.0	
	90	4709.1	2.700	0.431	237.0	
	95	4709.1	2.611	0.417	237.0	
	100	4709.1	2.530	0.403	237.0	
	105	4709.1	2.457	0.390	237.0	
	110	4709.1	2.391	0.379	237.0	
	115	4709.1	2.330	0.367	237.0	
	120	4709.1	2.275	0.357	237.0	
7	121	4709.1	2.264	0.355	237.0	FINAL SHUT-IN HYDROSTATIC MUD
8		5139.5				

**JOHNSTON**

**Schlumberger**

**technical  
report**

## EQUIPMENT & HOLE DATA

## EQUIPMENT & HOLE DATA

Type Test	M. F. E. OPEN HOLE		
Formation Tested			
Elevation			Ft.
Net Productive Interval			Ft.
Estimated Porosity			%
All Depths Measured From			
Total Depth	11630		Ft.
Main Hole/Casing Size			
Rat Hole/Liner Size			
Drill Collar Length		I.D.	
Drill Pipe Length		I.D.	
Packer Depth(s)	11492 & 11498		Ft.

MULTI-FLOW EVALUATOR FLUID SAMPLE DATA			
Sampler Pressure _____		P.S.I.G. at Surface _____	
Recovery: Cu. Ft. Gas _____			
cc. Oil _____			
cc. Water _____			
cc. Mud _____			
Tot. Liquid cc. _____			
Gravity _____		° API @ _____ ° F.	
Gas/Oil Ratio _____		cu. ft./bbl. _____	
RESISTIVITY		CHLORIDE CONTENT	
Recovery Water _____ @ _____ ° F. _____ ppm			
Recovery Mud _____ @ _____ ° F. _____			
Recovery Mud Filtrate _____ @ _____ ° F. _____ ppm			
Mud Pit Sample _____ @ _____ ° F. _____			
Mud Pit Sample Filtrate _____ @ _____ ° F. _____ ppm			

Mud Type	-	Wt.	-
Viscosity	-	Water Loss	- C.C.
Resist. of Mud	- @ - °F.	of Filtrate	- @ - °F
Chloride Content	-		PPM

[illegible]

Remarks: UNSUCCESSFUL TEST; PACKER SEAT FAILURE

Address 333 WEST HAMPDEN, SUITE 1010; ENGLEWOOD, COLORADO 80110

Company ENERGETICS, INC. Field WILD CAT

Company \_\_\_\_\_  
Well \_\_\_\_\_ WEBER COAL #13-3 \_\_\_\_\_ Location \_\_\_\_\_ -  
Test Interval \_\_\_\_\_ 11498' TO 11630' (UNSUCCESSFUL) \_\_\_\_\_ Test # \_\_\_\_\_ 4 \_\_\_\_\_ Date \_\_\_\_\_ 2-14-77

County SUMMIT State UTAH  
Technician DUNN (ROCK SPRINGS) Test Approved By MR. STEVE ROBINSON

Field Report No. 10960 C  
No. Reports Requested 13(11x's)

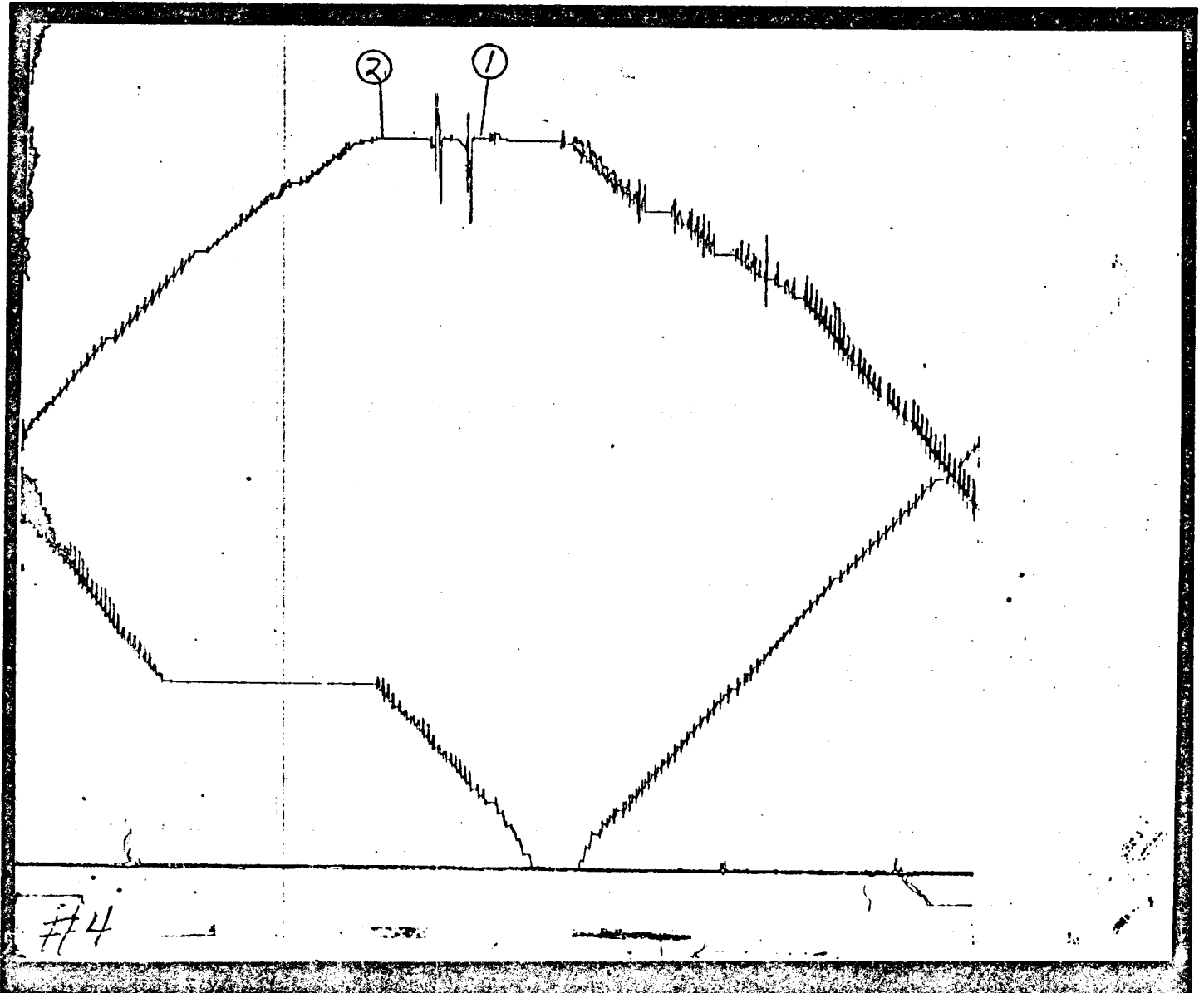
## BOTTOM HOLE PRESSURE AND TIME DATA

INSTRUMENT NO.: J-443      CAPACITY (P.S.I.): 6400#      DEPTH -      FT.  
 PORT OPENING: OUTSIDE      BOTTOM HOLE TEMP.: READ AT 150°F.      FIELD REPORT NO. 10960 C

DESCRIPTION	LABELED POINTS	PRESSURE (P.S.I.)	GIVEN TIME	COMPUTED TIME
INITIAL HYDROSTATIC MUD	1	5648.9		
INITIAL FLOW (1)				
INITIAL FLOW (2)				
INITIAL SHUT-IN				
SECOND FLOW (1)				
SECOND FLOW (2)				
SECOND SHUT-IN				
FINAL FLOW (1)				
FINAL FLOW (2)				
FINAL SHUT-IN				
FINAL HYDROSTATIC MUD	2	5638.7		

REMARKS: UNSUCCESSFUL TEST.

13-



Confidential

COMPANY ENERGETICS, INC.

WELL WEBER COAL #13-3

TEST NO. 3

COUNTY SUMMIT

STATE UTAH

**JOHNSTON**

**Schlumberger**

**technical  
report**

## EQUIPMENT & HOLE DATA

No. Reports Requested 13(11x's)

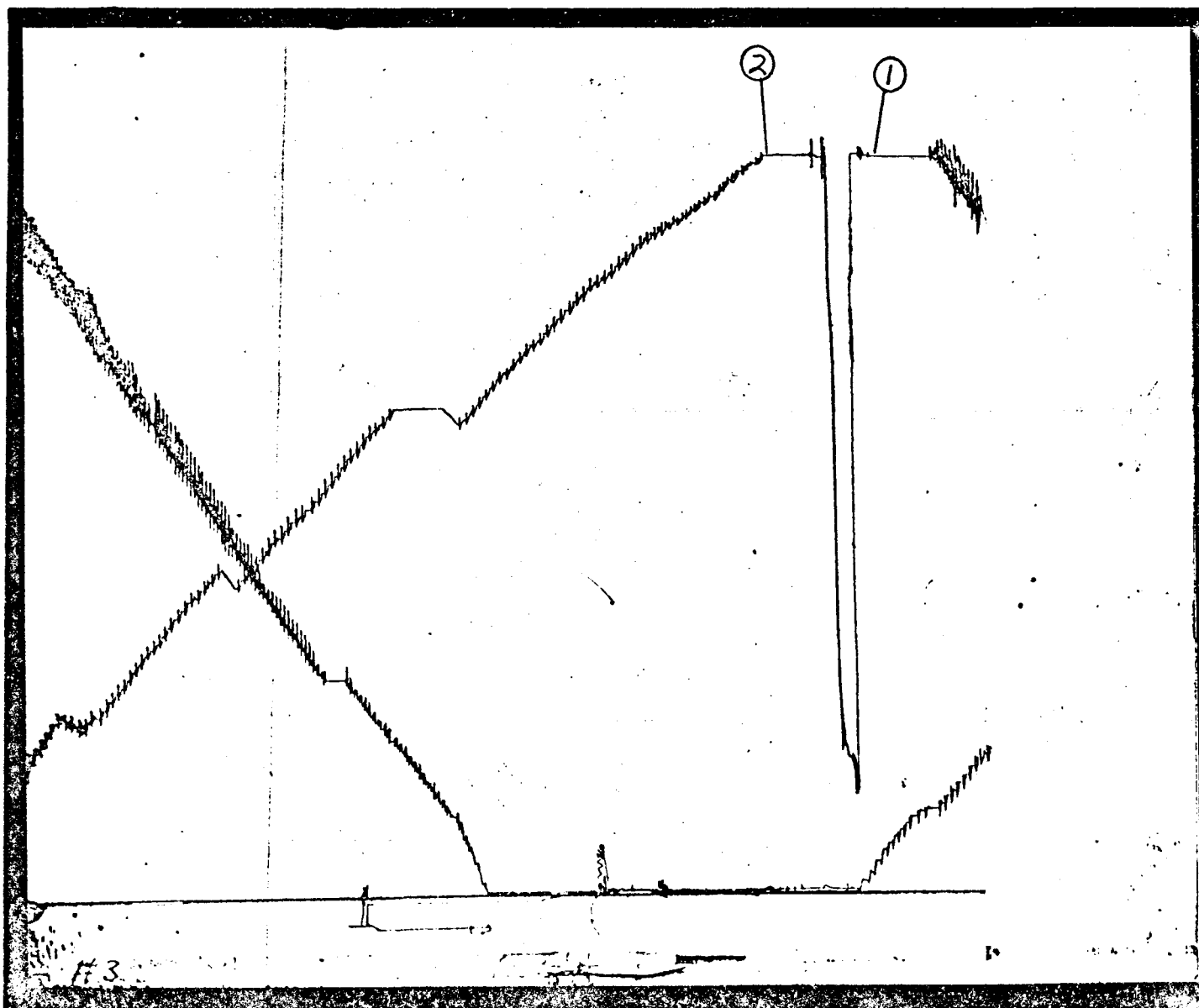
## BOTTOM HOLE PRESSURE AND TIME DATA

INSTRUMENT NO.: J-443      CAPACITY (P.S.I.): 6400#      DEPTH 11500      FT.  
 PORT OPENING: OUTSIDE      BOTTOM HOLE TEMP.: READ AT 150°F.      FIELD REPORT NO. 10959 C

DESCRIPTION	LABELED POINTS	PRESSURE (P.S.I.)	GIVEN TIME	COMPUTED TIME
INITIAL HYDROSTATIC MUD	1	5627.3		
INITIAL FLOW (1)				
INITIAL FLOW (2)				
INITIAL SHUT-IN				
SECOND FLOW (1)				
SECOND FLOW (2)				
SECOND SHUT-IN				
FINAL FLOW (1)				
FINAL FLOW (2)				
FINAL SHUT-IN				
FINAL HYDROSTATIC MUD	2	5640.0		

REMARKS: UNSUCCESSFUL TEST.

13-



*Confidential*

COMPANY ENERGETICS, INC.

WELL WEBER COAL #13-3

TEST NO. 2

COUNTY SUMMIT

STATE UTAH

**JOHNSTON**

**Schlumberger**

# **technical report**



### EQUIPMENT & HOLE DATA

EQUIPMENT & HOLE DATA		
Type Test	M. F. E. OPEN HOLE	
Formation Tested	NUGGET	
Elevation	G. L. 5980	Ft.
Net Productive Interval	40	Ft.
Estimated Porosity	15	%
All Depths Measured From	KELLY BUSHING	
Total Depth	11521	Ft.
Main Hole/Casing Size	8 1/2"	
Rat Hole/Liner Size	-	
Drill Collar Length	529'	I.D. 2.25"
Drill Pipe Length	10917'	I.D. 3.826"
Packer Depth(s)	11476 & 11480	
		Ft.

Sampler Pressure	2	P.S.I.G. at Surface
Recovery: Cu. Ft. Gas	-	
cc. Oil	-	
cc. Water	-	
cc. Mud	1840	
Tot. Liquid cc.	1840	
Gravity	-	* API @ - * F.
Gas/Oil Ratio	-	cu. ft./bbl.

Mud Type	SALT/POLYMER	Wt.	9.3
Viscosity	41	Water Loss	7.2
Resist. of Mud	.15 @ 72	*F. of Filtrate	.15 @ 68
Chloride Content	46500		
			PPM

### CHLORIDE CONTENT

Recovery Water	-	@	-	°F.	-	ppm
Recovery Mud	.13	@	74	°F.		
Recovery Mud Filtrate	.13	@	70	°F.	46000	ppm
Mud Pit Sample	.15	@	72	°F.		
Mud Pit Sample Filtrate	.15	@	68	°F.	46500	ppm

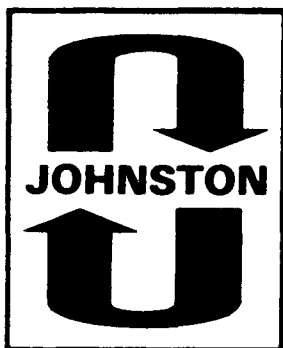
Remarks: \_\_\_\_\_

Address 333 WEST HAMPDEN, SUITE 1010; ENGLEWOOD, COLORADO 80110

Company ENERGETICS, INC. Field WILD CAT  
Well WEBER COAL #13-3 Location SW/4-SEC.3-TWP2N-RGE5E  
Test Interval 11480' TO 11521' Test # 2 Date 2-10-77

County SUMMIT State UTAH  
Technician CHRISTENSEN (ROCK SPRINGS) Ver. Approved By MR. STEVE ROBINSON

Field Report No. 14401 C  
No. Reports Requested 13 (12x's)



# PRESSURE LOG\*

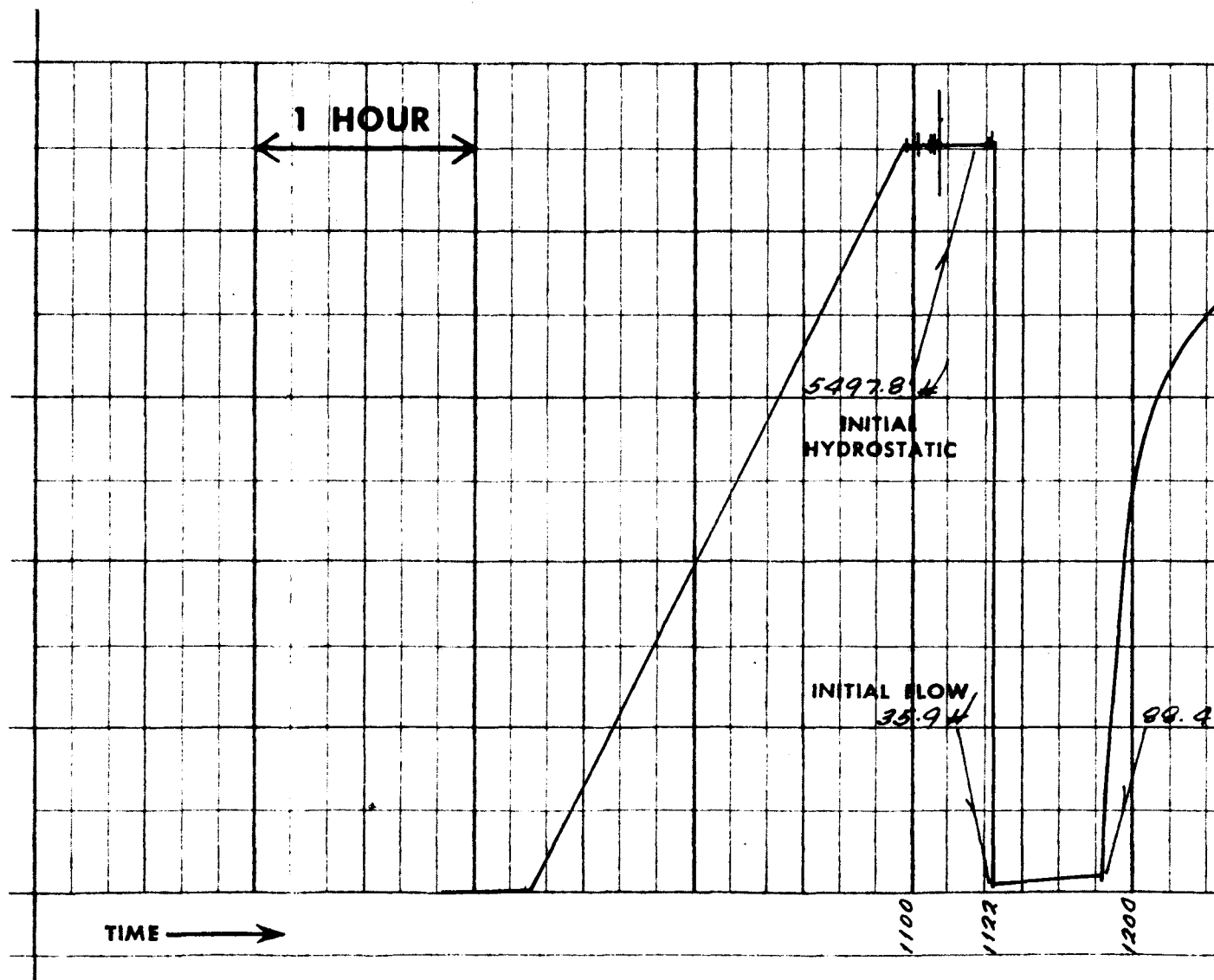
Field Report No. 14401C

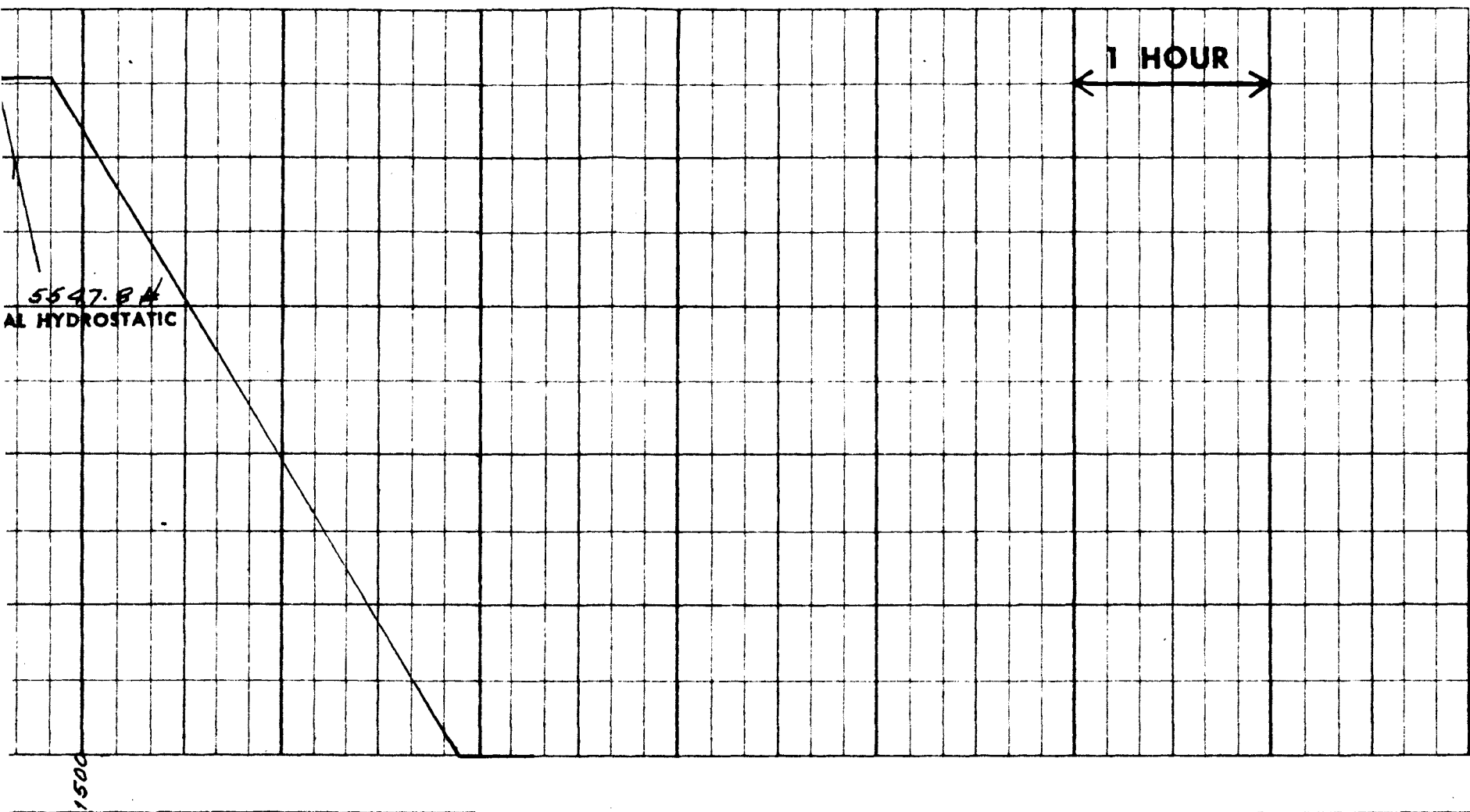
Instrument:  
Number J-073

Capacity 6400 p.s.i.

Depth 11505 ft.

\*a continuous tracing of the original chart





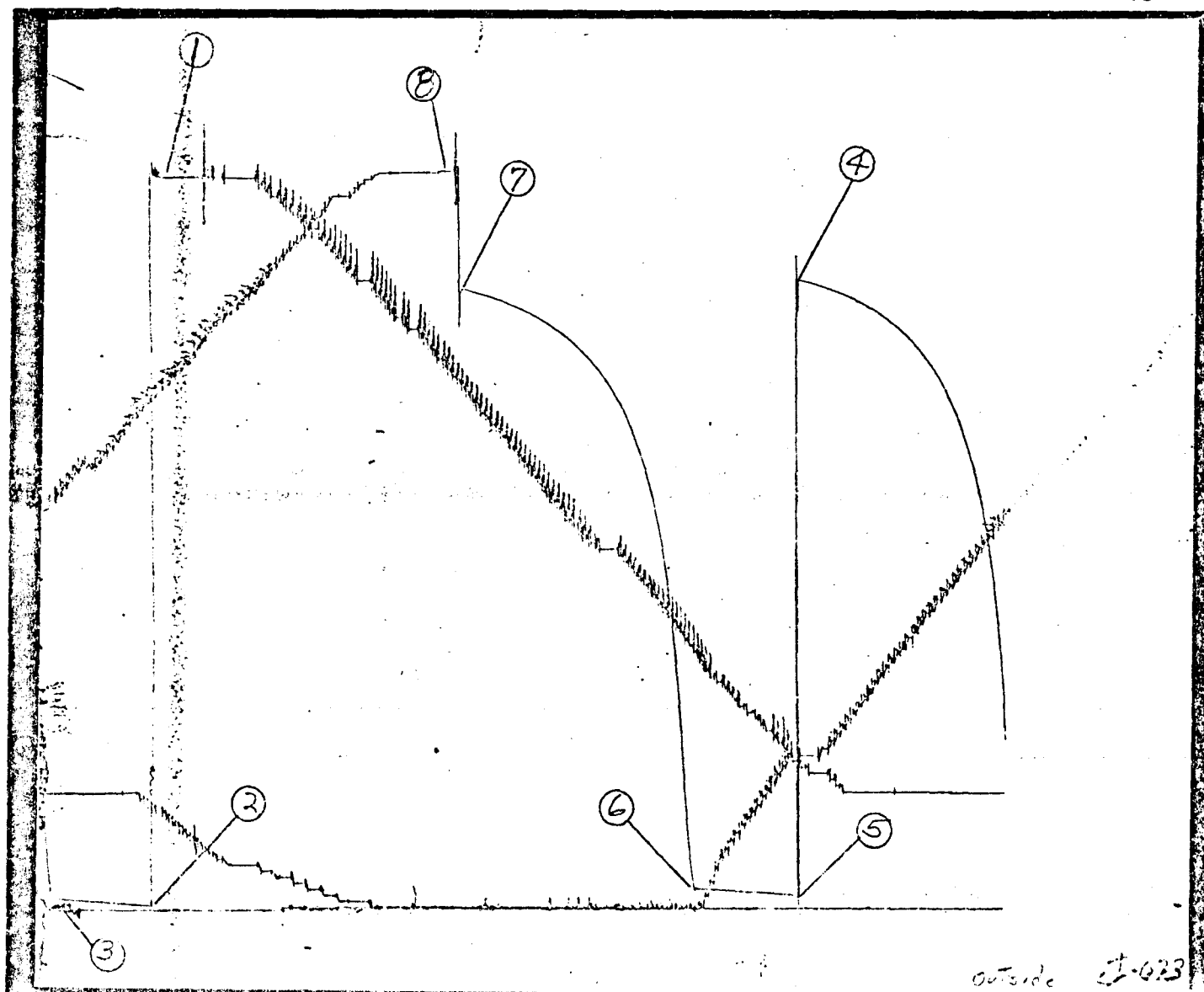
## BOTTOM HOLE PRESSURE AND TIME DATA

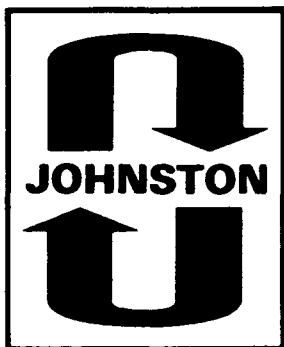
INSTRUMENT NO.: J-073      CAPACITY (P.S.I.): 6400#      DEPTH 11505      FT.  
 PORT OPENING: OUTSIDE      BOTTOM HOLE TEMP.: 238°F.      FIELD REPORT NO. 14401 C

DESCRIPTION	LABELED POINTS	PRESSURE (P.S.I.)	GIVEN TIME	COMPUTED TIME
INITIAL HYDROSTATIC MUD	1	5497.8		
INITIAL FLOW (1)	2	35.9		
INITIAL FLOW (2)	3	88.4	30	
INITIAL SHUT-IN	4	4730.9	60	
SECOND FLOW (1)				
SECOND FLOW (2)				
SECOND SHUT-IN				
FINAL FLOW (1)	5	112.1		
FINAL FLOW (2)	6	162.1	30	
FINAL SHUT-IN	7	4662.2	66	
FINAL HYDROSTATIC MUD	8	5547.8		

REMARKS:

13-





# PRESSURE LOG\*

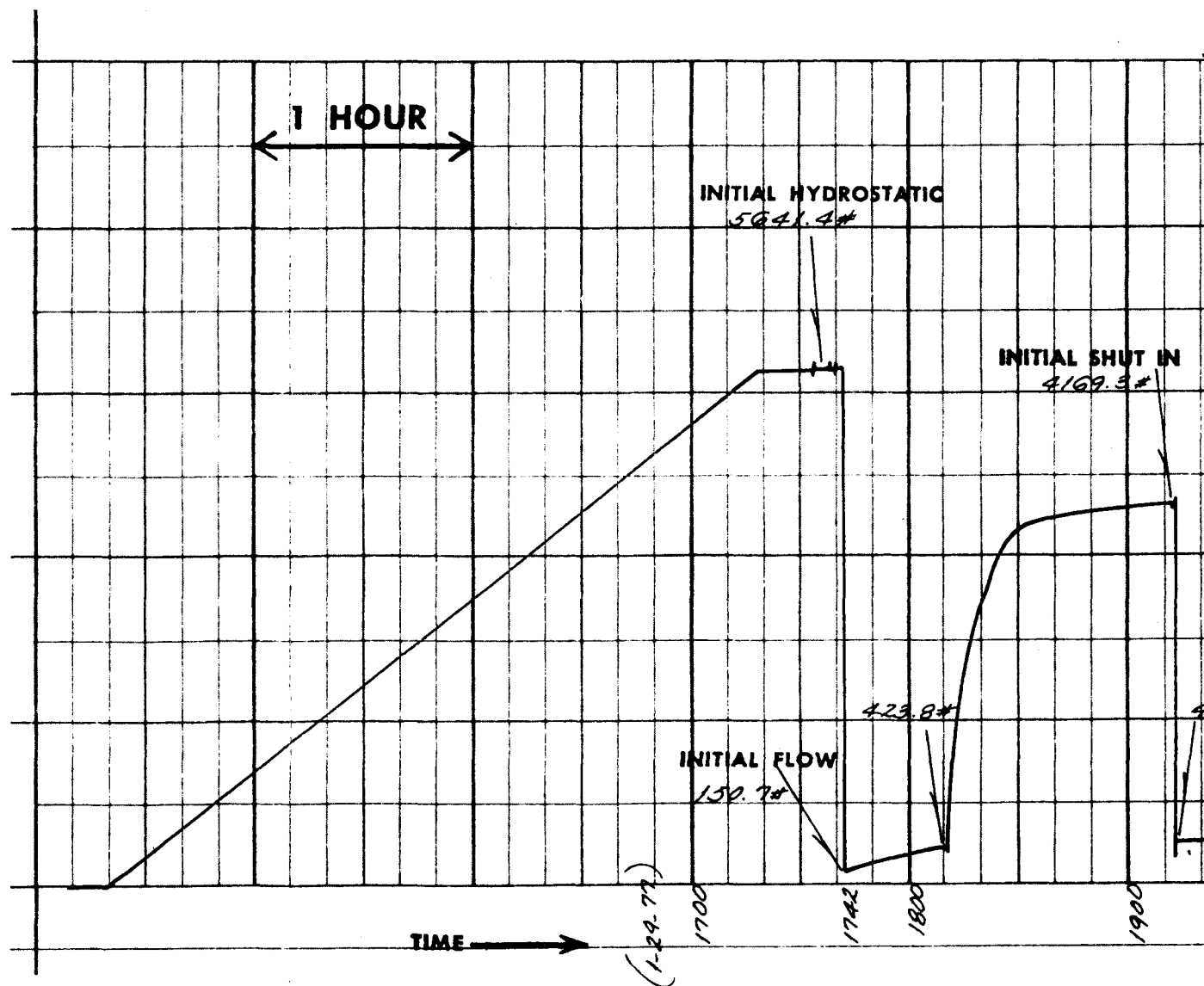
Field Report No. 14388 C

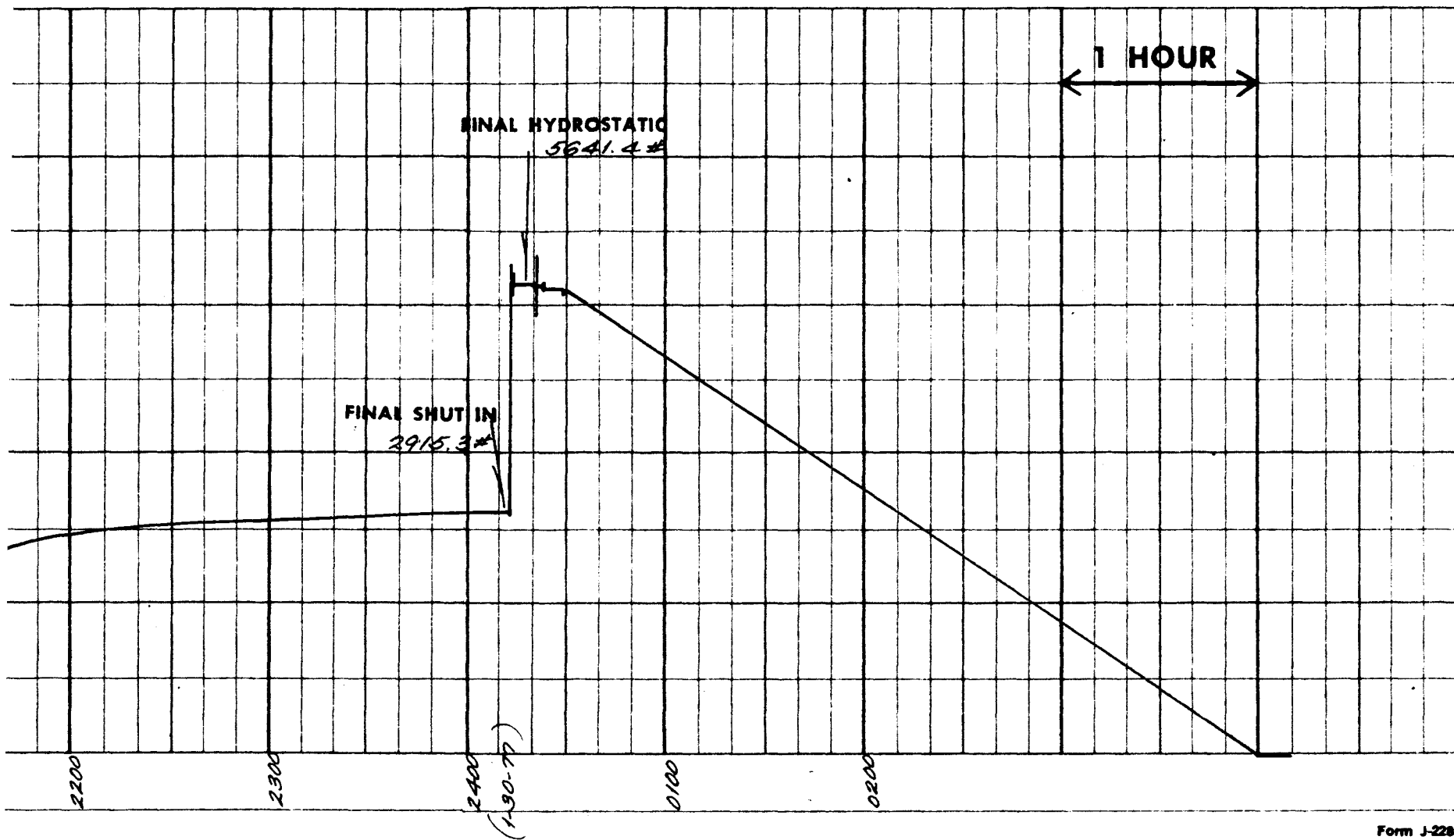
Instrument:  
Number J-544

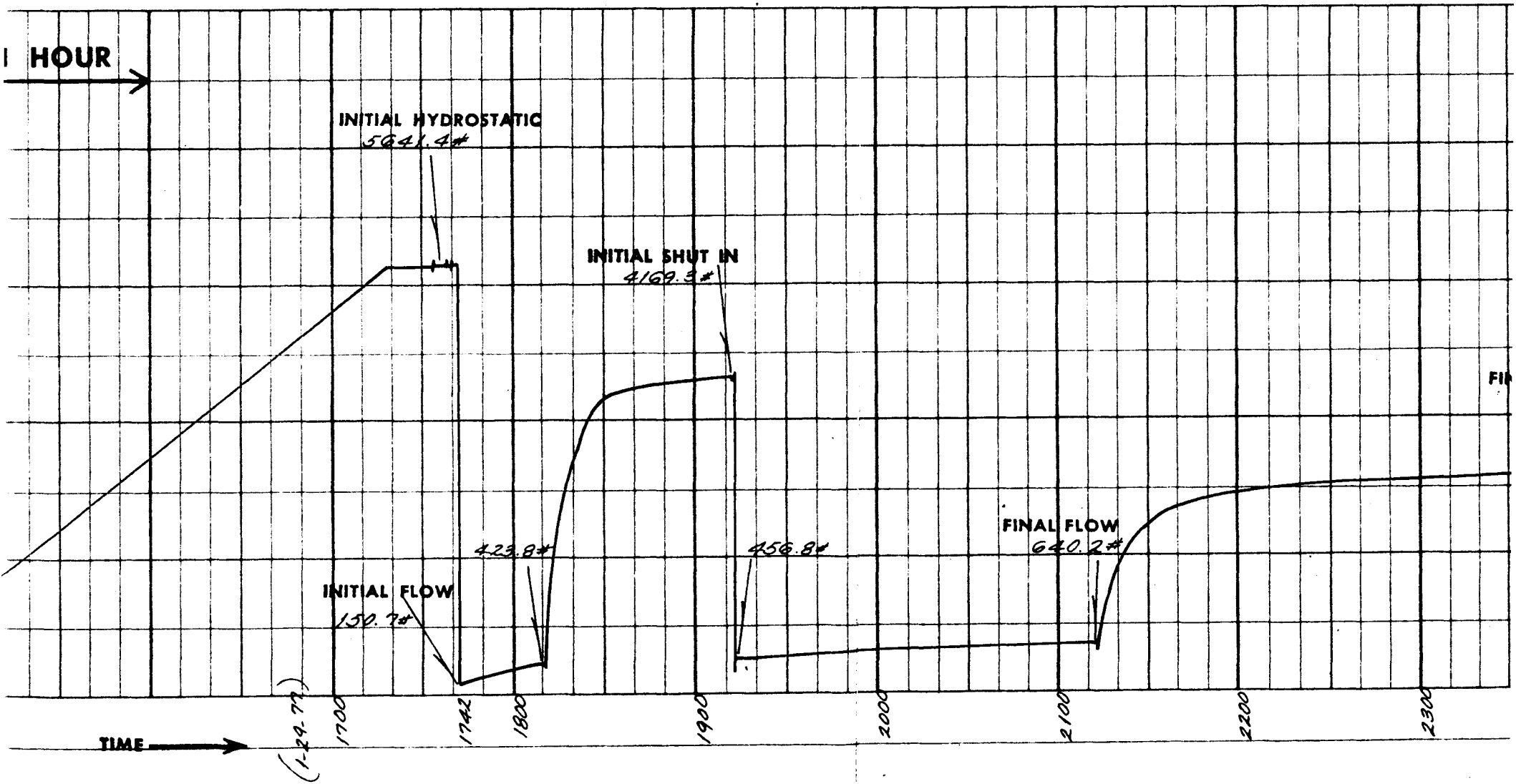
Capacity 9000 p.s.i.

Depth 10648 ft.

\*a continuous tracing of the original chart







COMPANY ENERGETICS, INC.

WELL WEBER COAL #13-3

TEST NO. 1

COUNTY

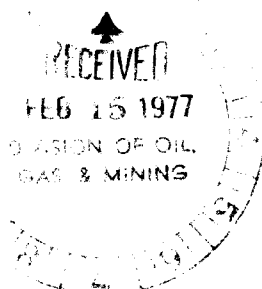
SUMMIT

STATE UTAH

JOHNSTON

Schlumberger

# technical report



F. R. #14388 C



## EQUIPMENT & HOLE DATA

Type Test	M. F. E. OPEN HOLE	
Formation Tested	TWIN CREEK	
Elevation	6002	Ft.
Net Productive Interval	220	Ft.
Estimated Porosity	-	%
All Depths Measured From	KELLY BUSHING	
Total Depth	10905	Ft.
Main Hole/Casing Size	8 1/2"	
Rat Hole/Liner Size	-	
Drill Collar Length	680'	I.D. 2 7/8"
Drill Pipe Length	9847'	I.D. 3 1/4"
Packer Depth(s)	10567 & 10636	

Sampler Pressure	5	P.S.I.G. at Surface
Recovery: Cu. Ft. Gas	-	
cc. Oil	-	
cc. Water	-	
cc. Mud	2400	
Tot. Liquid cc.	2400	
Gravity	-	*API @ - *°.
Gas/Oil Ratio	-	cc. ft./bbl.

	RESISTIVITY	CHLORIDE CONTENT
Recovery Water	— @ — °F.	— ppm
Recovery Mud	— @ — °F.	
Recovery Mud Filtrate	— @ — °F.	— ppm
Mud Pit Sample	.08 @ 62 °F.	
Mud Pit Sample Filtrate	.08 @ 62 °F.	98000 ppm

[illegible]

Remarks: \_\_\_\_\_

Address 333 WEST HAMPTON AVENUE; SUITE 1010; ENGLEWOOD, COLORADO 80110

Company	ENERGETICS, INC.		Field	WILD CAT
Well	WEBER COAL #13-3	Location	SW4-SEC. 3 - 72N - RSE	
Test Interval	10636' TO 10905'	Test #	1	Date 1-29-77

County SUMMIT State UTAH Field Report No. 14388 C  
Technician WOMACK (ROCK SPRINGS) Approved By MR. STEVE A. ROBINSON No. Reports Requested 13(11.x)

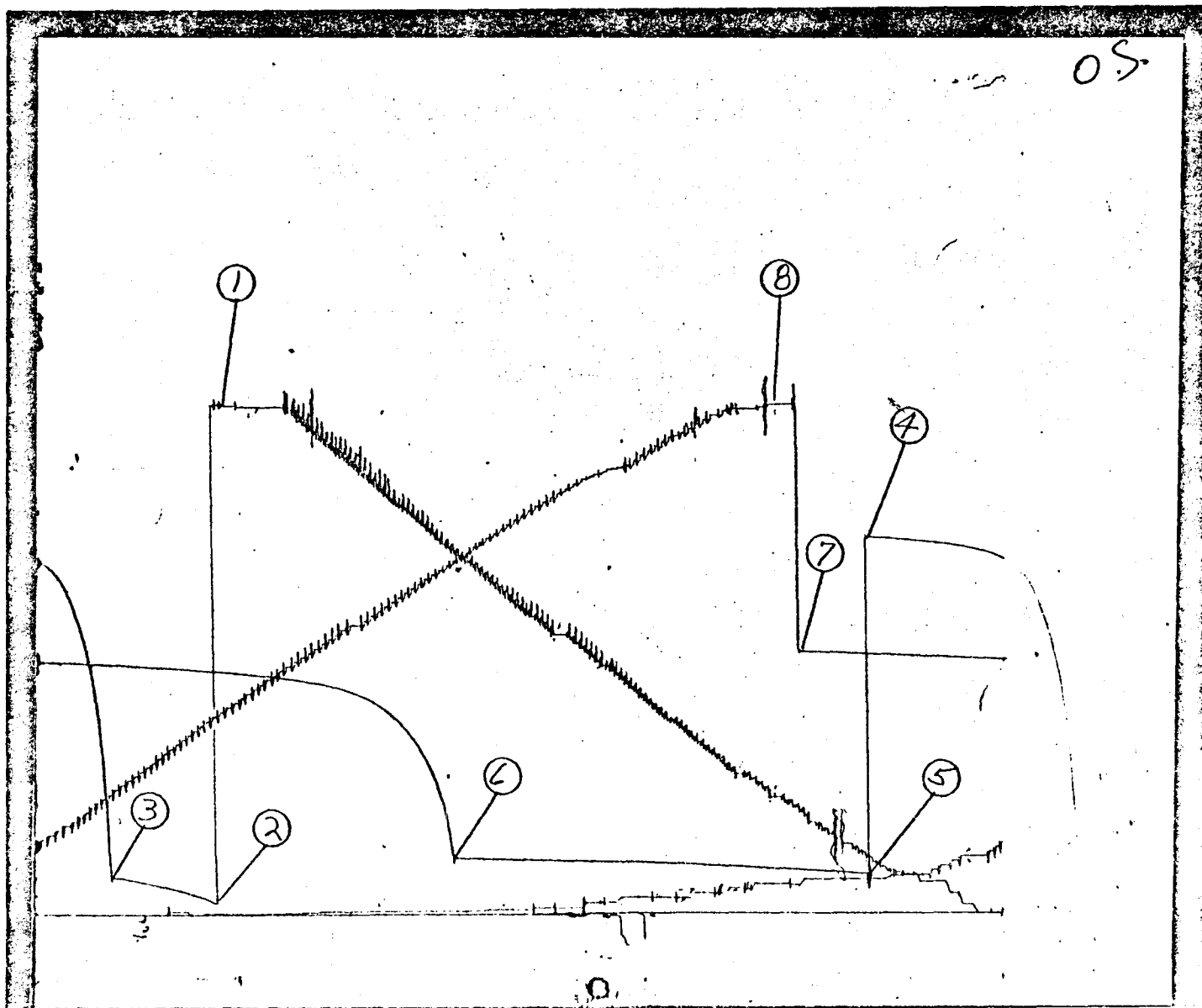
BOTTOM HOLE PRESSURE AND TIME DATA

INSTRUMENT NO.: J-544      CAPACITY (P.S.I.): 9000#      DEPTH 10648      FT.  
PORT OPENING: OUTSIDE      BOTTOM HOLE TEMP.: 208°F.      FIELD REPORT NO. 14388 C

DESCRIPTION	LABELED POINTS	PRESSURE (P.S.I.)	GIVEN TIME	COMPUTED TIME
INITIAL HYDROSTATIC MUD	1	5641.4		
INITIAL FLOW (1)	2	150.7		
INITIAL FLOW (2)	3	423.8	30	
INITIAL SHUT-IN	4	4169.3	60	
SECOND FLOW (1)				
SECOND FLOW (2)				
SECOND SHUT-IN				
FINAL FLOW (1)	5	456.8		
FINAL FLOW (2)	6	640.2	120	
FINAL SHUT-IN	7	2915.3	180	
FINAL HYDROSTATIC MUD	8	5641.4		

REMARKS:

13-



**JOHNSTON**

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**CONFIRMATION OF TECHNICAL REPORT DISTRIBUTION**

**CUSTOMER** ENERGETICS, INC. **FIELD REPORT NO.** 14388 C **DATE** 1-29-77  
**COMPANY** SAME **LEASE** WEBER COAL **WELL NO.** 13-3  
**COUNTY** SUMMIT **STATE** UTAH **FIELD** WILD CAT

JOHNSTON TESTERS HAS BEEN REQUESTED TO FURNISH THE FOLLOWING COMPANIES WITH TECHNICAL REPORTS.  
THIS DISTRIBUTION OF TECHNICAL REPORTS WILL BE USED FOR: ☒ ALL TESTS ON THIS WELL, ☐ THIS ONE TEST ONLY, UNLESS OTHERWISE NOTIFIED.

1 **TECHNICAL REPORT (S)**

FUELCO - FUEL RESOURCES DEVEL. CO.  
550 - 15TH STREET  
DENVER, COLORADO 80202

1 **TECHNICAL REPORT (S)**

3-M MINNESOTA MINING & MFG. CO.  
P.O. BOX 33327  
ST. PAUL, MINNESOTA 55133  
ATTN: MR PAUL JOHNSON

1 **TECHNICAL REPORT (S)**

PACIFIC POWER & LIGHT  
PUBLIC SERVICE BUILDING  
PORTLAND, OREGON 97204  
ATTN: MR GARY BOSHEARS

1 **TECHNICAL REPORT (S)**

PASCO - SINCLAIR OIL CORP.  
P.O. BOX 1677  
ENGLEWOOD, COLORADO 80110  
ATTN: MR DAVE DUBLER

1 **TECHNICAL REPORT (S)**

STATE OF UTAH  
DIVISION OF OIL & GAS & MINING  
1588 WEST N. TEMPLE  
SALT LAKE CITY, UTAH 84116

1

ENERGETICS, INC.  
333 WEST HAMPDEN AVE SUITE 1010  
ENGLEWOOD, COLORADO 80110

1 **TECHNICAL REPORT (S)**

TERENCE L. BRITT  
3280 BERNADA DRIVE  
SALT LAKE CITY, UTAH 84117

1 **TECHNICAL REPORT (S)**

IMPEL CORPORATION  
600 METROBANK BUILDING  
475 - 17TH STREET  
DENVER, COLORADO 80202

1 **TECHNICAL REPORT (S)**

TOM BROWN, INC.  
315 MIDLAND TOWER BUILDING  
P.O. BOX 2608  
MIDLAND, TEXAS 79701

1 **TECHNICAL REPORT (S)**

BROWNLIE, WALLACE, ARMSTRONG, BANDER  
SUITE 1420  
1660 LINCOLN STREET  
DENVER, COLORADO 80203

1 **TECHNICAL REPORT (S)**

BERCHMAN, J. MARY  
1010 PERE MARQUETTE BUILDING  
NEW ORLEANS, LOUISIANA 70112

2

AMOCO PROD. COMPANY  
SECURITY LIFE BUILDING  
DENVER, COLORADO 80202  
ATTN: BETH RAINBOLT

JOHNSTON

# CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming 82601

## GAS ANALYSIS REPORT

Company Energetics, Inc. Date February 2, 1977 Lab. No. 22541  
Well No. Weber Coal 13-3 Location \_\_\_\_\_  
Field Wildcat Formation Twin Creek  
County Summit Depth 10636-10905  
State Utah Sampling point DST No. 1  
Line pressure \_\_\_\_\_ psig; Sample pressure 0 psig; Temperature \_\_\_\_\_ ° F; Container number Chem Lab  
Remarks Sampled January 30, 1977  
Note: No pressure on container.

Component	Mole % or Volume %	
Oxygen	0	
Nitrogen	75.49	
Carbon dioxide	0	
Hydrogen sulfide	*	
Methane	16.97	Gallons
Ethane	1.83	per MCF
Propane	1.68	0.461
Iso-butane	0.77	0.251
N-butane	1.29	0.406
Iso-pentane	0.75	0.274
N-pentane	0.46	0.166
Hexanes & higher	0.76	0.350
Total	100.00	1.908

GPM of pentanes & higher fraction 0.790  
Gross btu/cu. ft. @60° F. & 14.7 psia (dry basis) 404  
Specific gravity (calculated from analysis) 0.966  
Specific gravity (measured) 0.968

Remarks: \*  $H_2S$  = Negative to lead acetate paper.

RECEIVED  
FEB 10 1977  
GAS & MINING

# CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

## WATER ANALYSIS REPORT

**CONFIDENTIAL**

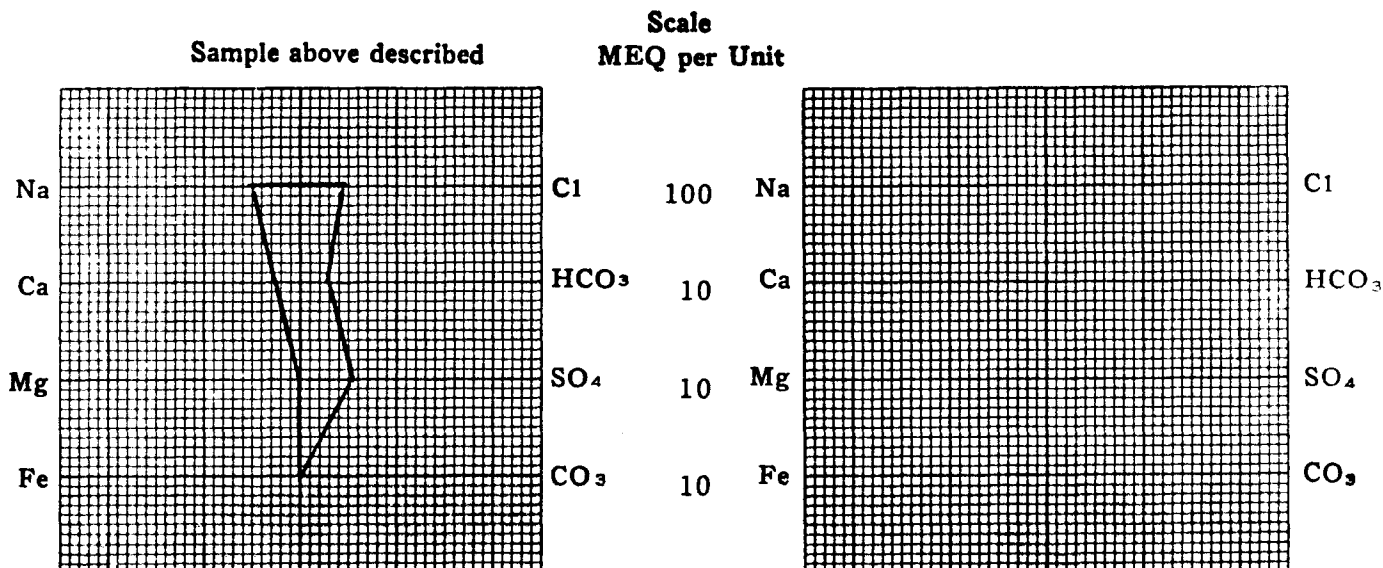
OPERATOR Energetics, Inc. DATE July 14, 1977 LAB NO. 24209-1  
 WELL NO. Weber Coal Co. 13-3 LOCATION NW SW 3-2N-5E  
 FIELD Wildcat FORMATION \_\_\_\_\_  
 COUNTY Summit INTERVAL \_\_\_\_\_  
 STATE Utah SAMPLE FROM Control manifold (6/24/77)

### REMARKS & CONCLUSIONS:

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	11046	480.52	Sulfate	2550	53.04
Potassium	710	18.18	Chloride	15700	442.74
Lithium			Carbonate	-	
Calcium	467	23.30	Bicarbonate	1769	29.01
Magnesium	34	2.79	Hydroxide		
Iron	-		Hydrogen sulfide	-	
Total Cations			Total Anions		
524.79			524.79		

Total dissolved solids, mg/l 31378 Specific resistance @ 68°F.:  
 NaCl equivalent, mg/l 29720 Observed 0.25 ohm-meters  
 Observed pH 7.1 Calculated 0.23 ohm-meters

### WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l = Milligrams per liter Meq/l = Milligram equivalents per liter  
 Sodium chloride equivalent = by Dunlap & Hawthorne calculation from components

## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

## WATER ANALYSIS REPORT

OPERATOR Energetics, Inc. DATE February 24, 1977 LAB NO. 22702-1  
WELL NO. Weber Coal 13-3 LOCATION \_\_\_\_\_  
FIELD Wildcat FORMATION \_\_\_\_\_  
COUNTY Summit INTERVAL 10631-11630  
STATE Utah SAMPLE FROM DST No. 5 (Sampler)

REMARKS & CONCLUSIONS: Sample No. 3; No. 1, Chloride, mg/l - - - - - 41600  
Sample No. 4; No. 2, Chloride, mg/l - - - - - 37400  
Sample No. 5; No. 3, Chloride, mg/l - - - - - 37000  
Sample No. 6; No. 4, Chloride, mg/l - - - - - 32200  
Sample No. 7; No. 5, Chloride, mg/l - - - - - 27800

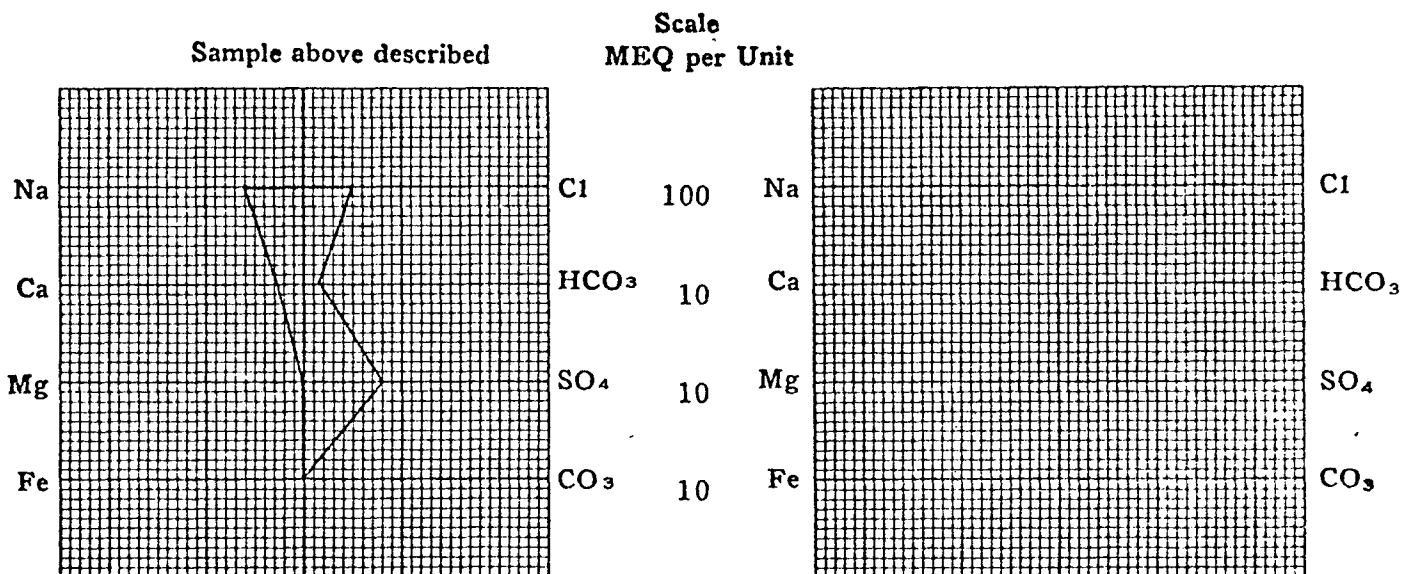
Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	13537	588.85	Sulfate	3780	78.62
Potassium	494	12.65	Chloride	19000	535.80
Lithium			Carbonate	-	
Calcium	531	26.50	Bicarbonate	1049	17.20
Magnesium	44	3.62	Hydroxide		
Iron	-		Hydrogen sulfide	-	
Total Cations		631.62	Total Anions		631.62

Total dissolved solids, mg/l - - - - - 37903  
NaCl equivalent, mg/l - - - - - 35797  
Observed pH - - - - - 7.8

Specific resistance @ 68°F.:

Observed - - - - - 0.20 ohm-meters  
Calculated - - - - - 0.19 ohm-meters

## WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l = Milligrams per liter Meq/l = Milligram equivalents per liter

Sodium chloride equivalent = by Dunlap &amp; Hawthorne calculation from components

## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794

Casper, Wyoming

## WATER ANALYSIS REPORT

OPERATOR Energetics, Inc. DATE February 24, 1977 LAB NO. 22702-2  
 WELL NO. Weber Coal 13-3 LOCATION \_\_\_\_\_  
 FIELD Wildcat FORMATION \_\_\_\_\_  
 COUNTY Summit INTERVAL 10631-11630  
 STATE Utah SAMPLE FROM DST No. 5 (Sample No. 10)

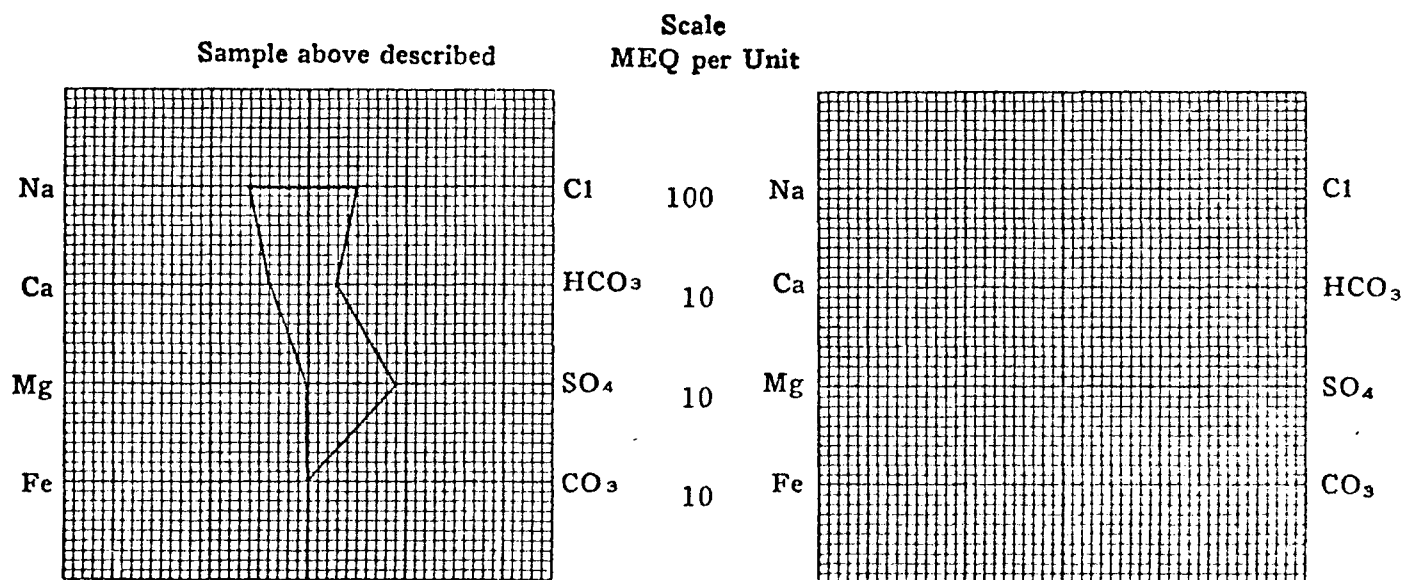
REMARKS & CONCLUSIONS: Sample No. 8; No. 6, Chloride, mg/l - - - - - 27200  
 Sample No. 9; No. 7, Chloride, mg/l - - - - - 23800  
 Sample No. 10; No. 8, Chloride, mg/l - - - - - 21200  
 Sample No. 11; No. 9, Chloride, mg/l - - - - - 20600  
 Sample No. 12; Pit mud, Chloride, mg/l - - - - - 35000

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium - - - - -	13827	601.49	Sulfate - - - - -	4400	91.52
Potassium - - - - -	526	13.47	Chloride - - - - -	19000	535.80
Lithium - - - - -			Carbonate - - - - -	-	
Calcium - - - - -	779	38.87	Bicarbonate - - - - -	1757	28.81
Magnesium - - - - -	28	2.30	Hydroxide - - - - -		
Iron - - - - -	-		Hydrogen sulfide - - - - -	Present	
Total Cations - - - - - 656.13			Total Anions - - - - - 656.13		

Total dissolved solids, mg/l - - - - - 39425  
 NaCl equivalent, mg/l - - - - - 36823  
 Observed pH - - - - - 7.1

Specific resistance @ 68°F.:  
 Observed - - - - - 0.21 ohm-meters  
 Calculated - - - - - 0.19 ohm-meters

## WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter

Sodium chloride equivalent=by Dunlap &amp; Hawthorne calculation from components



February 25, 1977

State of Utah  
Department of Natural Resources  
Division of Oil, Gas, and Mining  
1588 West North Temple  
Salt Lake City, Utah 84116

Attn: Kathy Ostler  
Records Clerk



Re: Weber Coal Co. 13-3  
Sec 3-T2N-R5E  
Summit Co., Utah

Gentlemen:

Thank you for your letter concerning the confidential status of the captioned well. This is to confirm that we are drilling the well "tight" and we request that you withhold the information on the well from open file.

Thank you for your cooperation.

Very truly yours,

ENERGETICS, INC.

A large, stylized handwritten signature in black ink, appearing to read 'E. L. Freund'.

E. L. Freund  
Vice President - Engineering & Production

ELF/kr



CORE ANALYSIS RESULTS

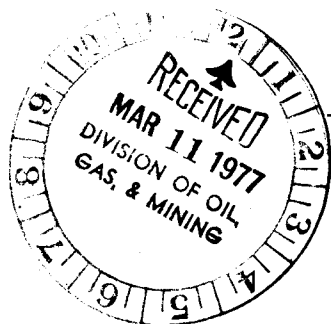
COLORADO, ENERGETICS, FUELCO, IMPEL

NO. 13-3 WEBER COAL CO.

WILDCAT

SUMMIT COUNTY, UTAH

*Confidential*



*630 Hcf*

*160 = 2,419,200*

*320 = 4,838,400*

*640 = 9,676,800*

*P*

July 5, 1977

Memo To File:

Re: Colorado Energetics  
13-3 Weber Coal Co. ✓  
NW SW Sec. 3, T. 2 N., R. 5 E. ✓  
Summit County

Verbal permission has been given to Colorado Energetics on June 30, 1977, to plug and abandon the above well. The tentative information, presented in a somewhat haphazard manner, is as follows:

Total depth	17,323'
Casing 13 3/8	3,039' to surface
9 5/8	10,663' to 2,500'
7 5/8	15,675' to 9,958'

No casing will be pulled, so in effect, the well is cased from top to bottom.

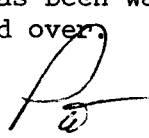
The perforated intervals are isolated by the placement of the following plugs:

C.I.B.P.	15,888'
C.I.B.P.	15,380'
C.I.B.P.	14,775'
Cement plug	11,396'-11,550'
C.I.B.P.	11,332'
C.I.B.P.	11,200'
Proposed perfs:	10,942'-10,992'

(All cast iron bridge plugs have 10 sacks of cement set on top.)

Upon testing, a C.I.B.P. will be set 50' above perfs. From this point on, there are two strings of casing cemented to surface. Therefore, the only other plug will be at surface.

The provision for the dry hole marker has been waived and the pipe will be cut off 36" below surface and covered over.

  
PATRICK L. DRISCOLL  
CHIEF PETROLEUM ENGINEER

PLD/src

# CHEMICAL & GEOLOGICAL LABORATORIES

P.O. Box 2794  
Casper, Wyoming 82602

## GAS ANALYSIS REPORT

**CONFIDENTIAL**

Company Energetics, Inc. Date July 12, 1977 Lab. No. 24208-1  
Well No. Weber Coal Co. 13-3 Location NW 3-2N-5E  
Field Wildcat Formation Thaynes  
County Summit Depth 14648-14672  
State Utah Sampling point Production  
Line pressure \_\_\_\_\_ psig; Sample pressure 95 psig; Temperature \_\_\_\_\_ ° F; Container number Virg's  
Remarks Sample No. 1 (N<sub>2</sub> used in treatment).

Component	Mole % or Volume %	Gallons per MCF
Oxygen.....	0	
Nitrogen.....	93.11	
Carbon dioxide.....	0	
Hydrogen sulfide.....	*	
Methane.....	2.17	0.093
Ethane.....	4.37	0
Propane.....	0.34	0
Iso-butane.....	0	0
N-butane.....	0	0
Iso-pentane.....	0	0
N-pentane.....	0	0
Hexanes & higher.....	0.01	0.005
Total.....	100.00	0.098

GPM of pentanes & higher fraction..... 0.005  
Gross btu/cu. ft. @ 60° F. & 14.7 psia (dry basis)..... 108  
Specific gravity (calculated from analysis)..... 0.963  
Specific gravity (measured)..... 0.965

Remarks: \* H<sub>2</sub>S = Negative to lead acetate paper.

# CHEMICAL & GEOLOGICAL LABORATORIES

P.O. Box 2794  
Casper, Wyoming 82602

## GAS ANALYSIS REPORT

Company Energetics, Inc. Date July 12, 1977 Lab. No. 24208-2  
Well No. Weber Coal Co. 13-3 Location NW SW 3-2N-5E  
Field Wildcat Formation Thaynes  
County Summit Depth 14648-14672  
State Utah Sampling point Production  
Line pressure \_\_\_\_\_ psig; Sample pressure 15 psig; Temperature \_\_\_\_\_ ° F; Container number Virg's  
Remarks Sample No. 2 (N<sub>2</sub> used in treatment).

Component	Mole % or Volume %	
Oxygen.....	<u>0</u>	
Nitrogen.....	<u>85.57</u>	
Carbon dioxide.....	<u>0</u>	
Hydrogen sulfide.....	<u>*</u>	
Methane.....	<u>13.89</u>	<b>Gallons</b>
Ethane.....	<u>0.50</u>	<b>per MCF</b>
Propane.....	<u>0.03</u>	<u>0.008</u>
Iso-butane.....	<u>0</u>	<u>0</u>
N-butane.....	<u>0</u>	<u>0</u>
Iso-pentane.....	<u>0</u>	<u>0</u>
N-pentane.....	<u>0</u>	<u>0</u>
Hexanes & higher.....	<u>0.01</u>	<u>0.005</u>
Total.....	<u>100.00</u>	<u>0.013</u>

GPM of pentanes & higher fraction..... 0.008

Gross btu/cu. ft. @60° F. & 14.7 psia (dry basis)..... 151

Specific gravity (calculated from analysis)..... 0.910

Specific gravity (measured)..... 0.910

Remarks: \* H<sub>2</sub>S = Negative to lead acetate paper.

## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

## WATER ANALYSIS REPORT

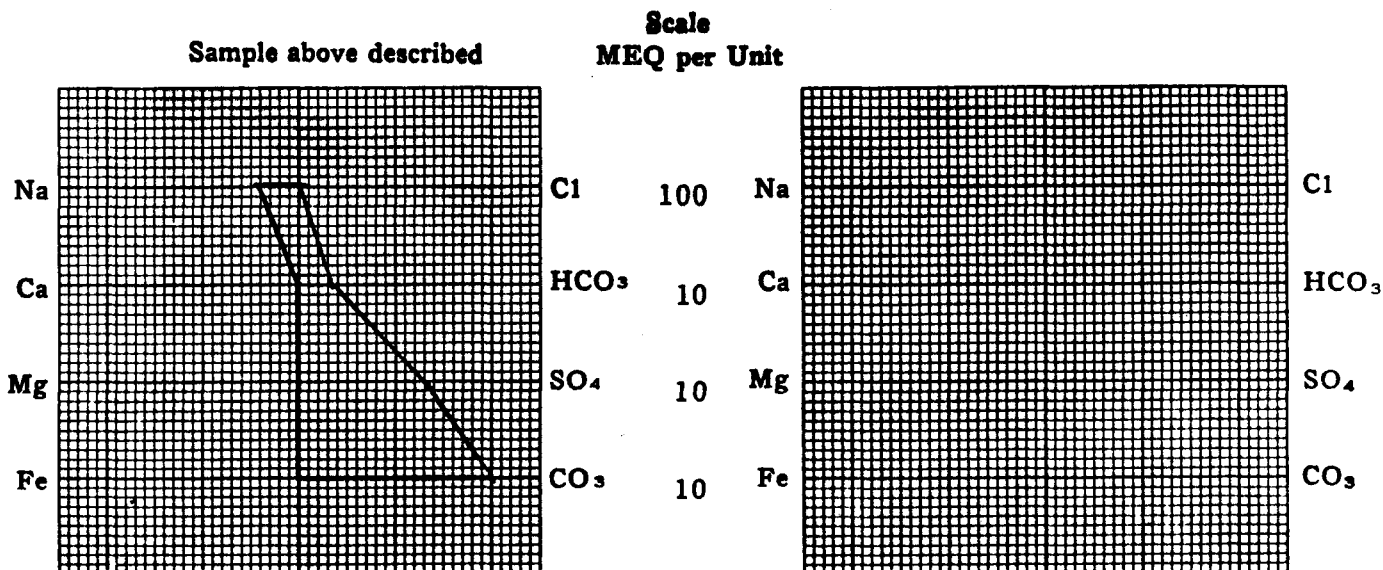
OPERATOR Energetics, Inc. DATE July 14, 1977 LAB NO. 24209-2  
 WELL NO. Weber Coal Co. 13-3 LOCATION NW SW 3-  
 FIELD \_\_\_\_\_ FORMATION \_\_\_\_\_  
 COUNTY \_\_\_\_\_ INTERVAL \_\_\_\_\_  
 STATE \_\_\_\_\_ SAMPLE FROM \_\_\_\_\_

## REMARKS &amp; CONCLUSIONS:

Mud, low water-loss, dark colored water.

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	8851	385.00	Sulfate	6300	131.04
Potassium	98	2.51	Chloride	800	22.56
Lithium			Carbonate	6000	199.80
Calcium	33	1.65	Bicarbonate	2196	36.01
Magnesium	3	0.25	Hydroxide		
Iron	-		Hydrogen sulfide	-	
Total Cations			Total Anions		
389.41			389.41		
Total dissolved solids, mg/l			Specific resistance @ 68°F.:		
23167			Observed		
NaCl equivalent, mg/l			0.43 ohm-meters		
21089			Calculated		
Observed pH			0.32 ohm-meters		
9.9					

## WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter

Sodium chloride equivalent=by Dunlap &amp; Hawthorne calculation from components

# CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

## WATER ANALYSIS REPORT

OPERATOR	Energetics, Inc.	DATE	July 14, 1977	LAB NO.	24209-3
WELL NO.	Weber Coal Co. 13-3	LOCATION	NW SW 3-2N-5E		
FIELD	Wildcat	FORMATION			
COUNTY	Summit	INTERVAL	15675-15874		
STATE	Utah	SAMPLE FROM	DST No. 6 (Sampler) 6/17/77		

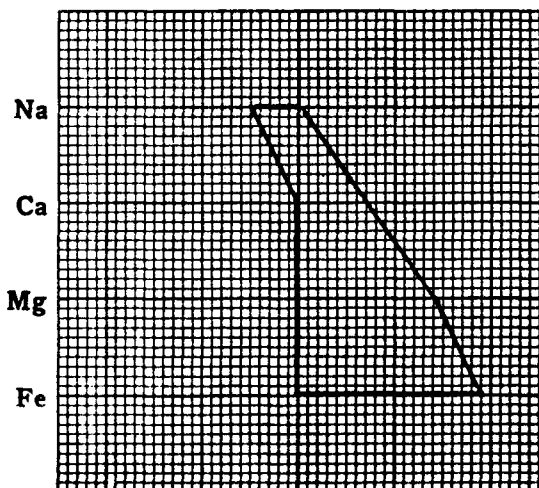
### REMARKS & CONCLUSIONS:

Mud, low water-loss, dark colored water.

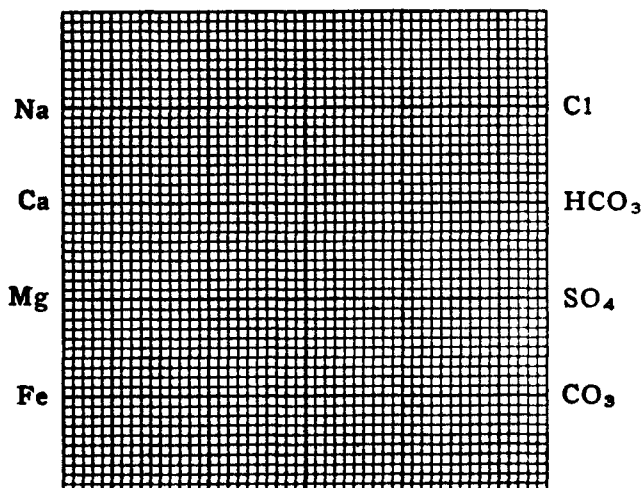
Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	9723	422.97	Sulfate	6800	141.44
Potassium	88	2.25	Chloride	1200	33.84
Lithium			Carbonate	5640	187.81
Calcium	33	1.65	Bicarbonate	3904	64.03
Magnesium	3	0.25	Hydroxide		
Iron	-		Hydrogen sulfide	-	
Total Cations		427.12	Total Anions		427.12
Total dissolved solids, mg/l			Specific resistance @ 68°F.:		
NaCl equivalent, mg/l			Observed		
Observed pH			Calculated		
				0.44	ohm-meters
				0.30	ohm-meters

## WATER ANALYSIS PATTERN

Sample above described  
Scale  
MEQ per Unit



Cl 100  
HCO<sub>3</sub> 10  
SO<sub>4</sub> 10  
CO<sub>3</sub> 10



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter

Sodium chloride equivalent=by Dunlap & Hawthorne calculation from components

## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

## WATER ANALYSIS REPORT

OPERATOR Energetics, Inc. DATE February 24, 1977 LAB NO. 22701  
 WELL NO. Weber Coal 13-3 LOCATION \_\_\_\_\_  
 FIELD Wildcat FORMATION Nugget  
 COUNTY Summit INTERVAL 11480-11521  
 STATE Utah SAMPLE FROM DST No. 2 (Sampler) (2/10/77)

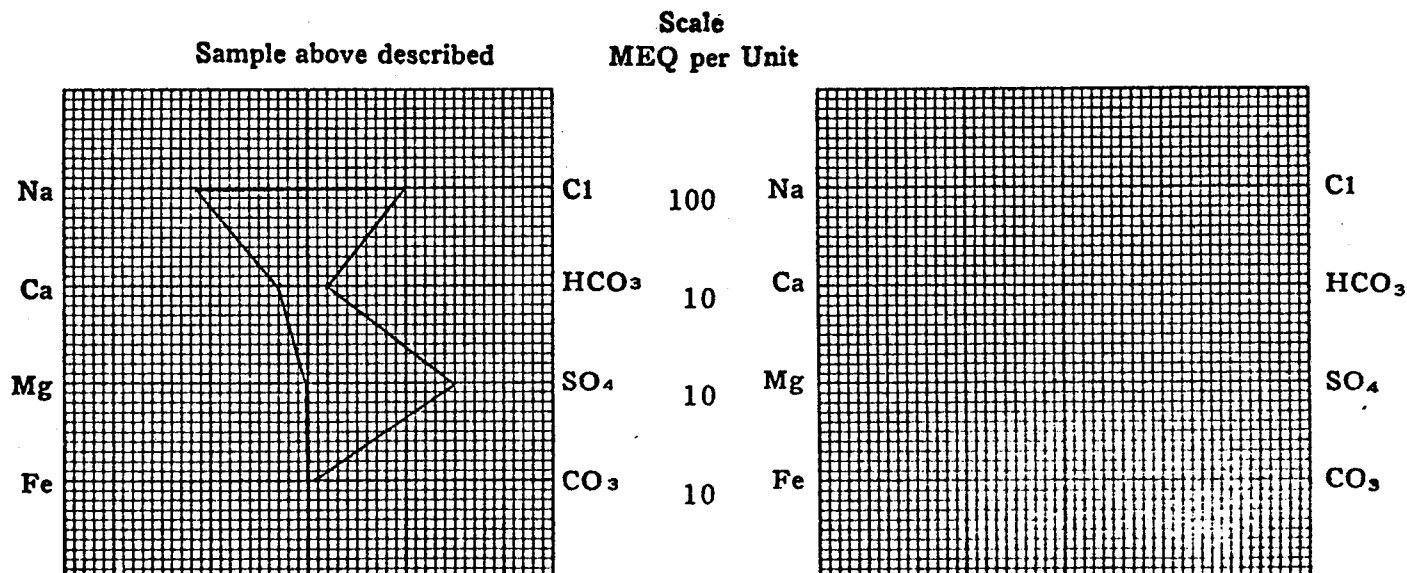
REMARKS & CONCLUSIONS: Sample No. 2; Top recovery, Chloride, mg/l - - - - 39800  
Sample No. 3; No. 2, Collar Stands, Chloride, mg/l - - - - 34400  
Sample No. 4; No. 3, Collar Stands, Chloride, mg/l - - - - 37600  
Sample No. 5; No. 4, Collar Stands, Chloride, mg/l - - - - 39000  
Sample No. 6; No. 5, Collar Stands, Chloride, mg/l - - - - 37200

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	26419	1149.22	Sulfate	7400	153.92
Potassium	348	8.91	Chloride	36000	1015.20
Lithium			Carbonate	216	7.19
Calcium	687	34.28	Bicarbonate	1122	18.40
Magnesium	28	2.30	Hydroxide		
Iron	-		Hydrogen sulfide	-	
Total Cations		1194.71	Total Anions		1194.71

Total dissolved solids, mg/l	71651	Specific resistance @ 68°F.:		
NaCl equivalent, mg/l	67751	Observed	0.12	ohm-meters
Observed pH	9.3	Calculated	0.11	ohm-meters

## WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)  
 NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter  
 Sodium chloride equivalent=by Dunlap & Hawthorne calculation from components

## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

## WATER ANALYSIS REPORT

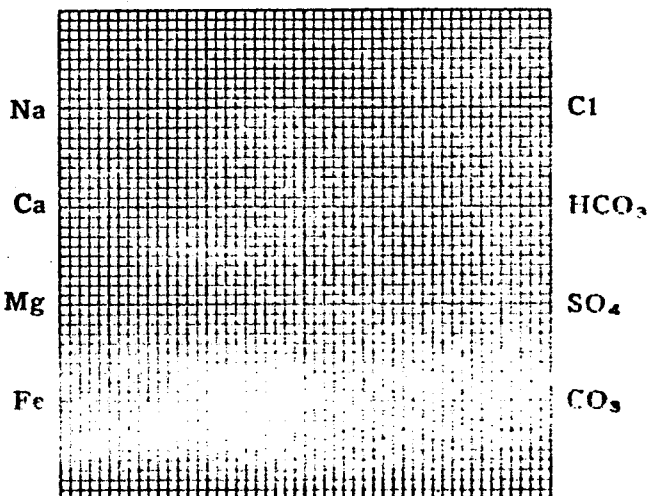
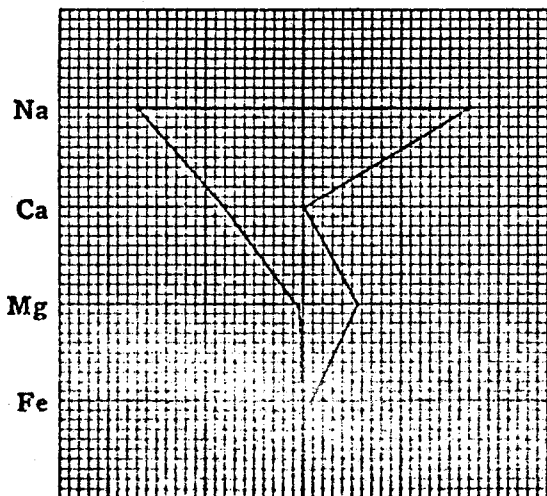
OPERATOR Energetics, Inc. DATE February 7, 1977 LAB NO. 22539-3  
 WELL NO. Weber Coal 13-3 LOCATION \_\_\_\_\_  
 FIELD Wildcat FORMATION Twin Creek  
 COUNTY Summit INTERVAL 10636-10905  
 STATE Utah SAMPLE FROM DST No. 1 (Bottom) (1-30-77)

REMARKS & CONCLUSIONS:  
Muddy water.

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	76341	3320.83	Sulfate	5400	112.32
Potassium	1186	30.36	Chloride	120000	3384.00
Lithium			Carbonate	480	15.98
Calcium	3160	157.68	Bicarbonate	488	8.00
Magnesium	139	11.43	Hydroxide		
Iron	-		Hydrogen sulfide	-	
Total Cations		3520.30	Total Anions		3520.30
Total dissolved solids, mg/l		206946	Specific resistance @ 68°F.:		
NaCl equivalent, mg/l		204244	Observed	0.060	ohm-meters
Observed pH		10.3	Calculated	0.051	ohm-meters

## WATER ANALYSIS PATTERN

Sample above described  
Scale  
MEQ per Unit



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter

Sodium chloride equivalent=by Dunlap &amp; Hawthorne calculation from components



## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

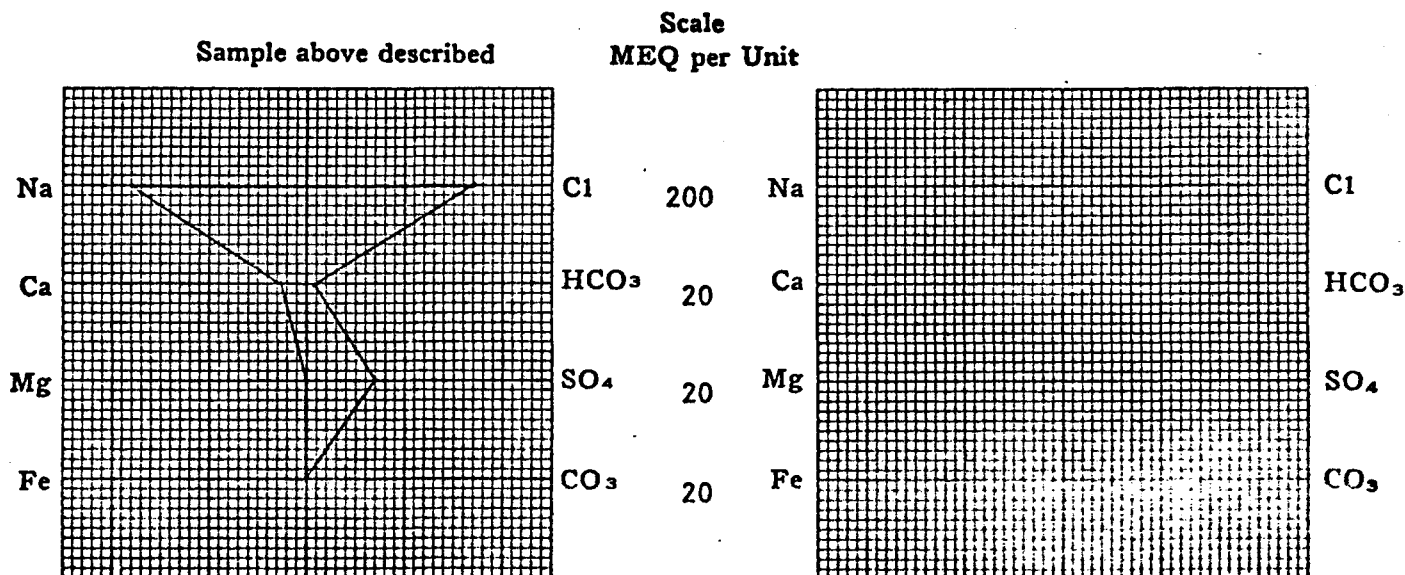
## WATER ANALYSIS REPORT

OPERATOR	Energetics, Inc.	DATE	February 7, 1977	LAB NO.	22539-2
WELL NO.	Weber Coal 13-3	LOCATION			
FIELD	Wildcat	FORMATION	Twin Creek		
COUNTY	Summit	INTERVAL	10636-10905		
STATE	Utah	SAMPLE FROM	DST No. 1 (Middle) 1-30-77		

REMARKS & CONCLUSIONS:  
Watery mud.

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	82393	3584.08	Sulfate	6680	138.94
Potassium	865	22.14	Chloride	124000	3496.80
Lithium			Carbonate	168	5.59
Calcium	1008	50.30	Bicarbonate	1342	22.01
Magnesium	83	6.82	Hydroxide		
Iron			Hydrogen sulfide		
Total Cations		3663.34	Total Anions		3663.34
Total dissolved solids, mg/l			Specific resistance @ 68°F.:		
			Observed		
NaCl equivalent, mg/l			Calculated		
Observed pH					

## WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter

Sodium chloride equivalent=by Dunlap &amp; Hawthorne calculation from components

## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

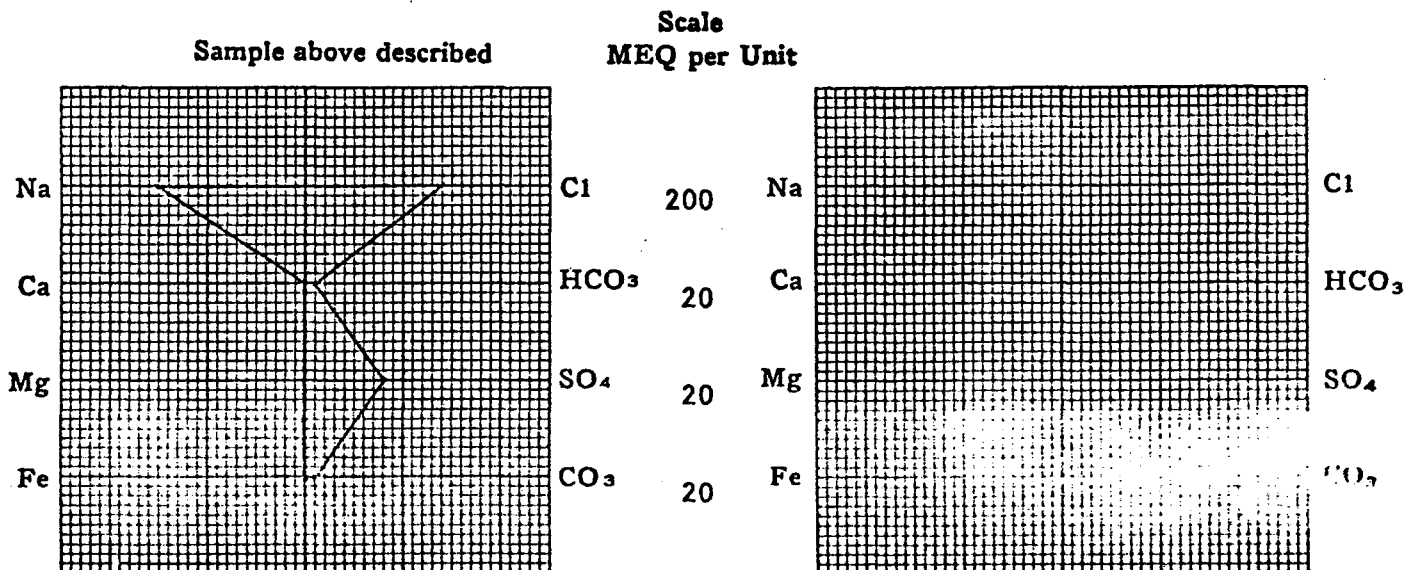
## WATER ANALYSIS REPORT

OPERATOR	Energetics Inc.	DATE	February 7, 1977	LAB NO.	22539-1
WELL NO.	Weber Coal 13-3	LOCATION			
FIELD	Wildcat	FORMATION	Twin Creek		
COUNTY	Summit	INTERVAL	10636-10905		
STATE	Utah	SAMPLE FROM	DST No. 1 (Top) 1-30-77		

 REMARKS & CONCLUSIONS:  
 Mud, low water loss.

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	70456	3064.83	Sulfate	7960	165.57
Potassium	528	13.52	Chloride	102000	2876.40
Lithium			Carbonate	576	19.18
Calcium	0	0	Bicarbonate	1049	17.20
Magnesium	0	0	Hydroxide		
Iron	-		Hydrogen sulfide	-	
Total Cations		3078.35	Total Anions		3078.35
Total dissolved solids, mg/l			Specific resistance @ 68°F.:		
			Observed		
NaCl equivalent, mg/l			Calculated		
Observed pH					

## WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)  
 NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter  
 Sodium chloride equivalent=by Dunlap & Hawthorne calculation from components

## CHEMICAL &amp; GEOLOGICAL LABORATORIES

P. O. Box 2794  
Casper, Wyoming

## WATER ANALYSIS REPORT

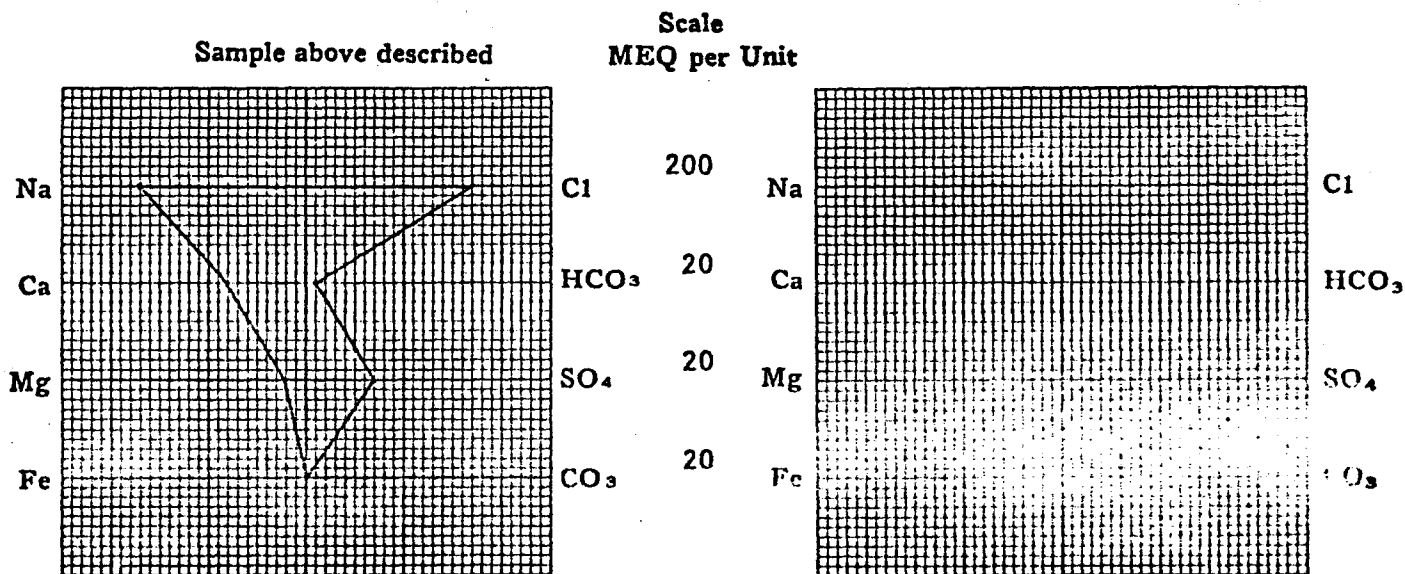
OPERATOR Energetics, Inc. DATE February 7, 1977 LAB NO. 22539-4  
 WELL NO. Weber Coal 13-3 LOCATION \_\_\_\_\_  
 FIELD Wildcat FORMATION Twin Creek  
 COUNTY Summit INTERVAL 10636-10905  
 STATE Utah SAMPLE FROM DST No. 1 (MFE) (1-30-77)

## REMARKS &amp; CONCLUSIONS:

Muddy water.

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	76163	3313.08	Sulfate	6520	135.62
Potassium	1140	29.18	Chloride	120000	3384.00
Lithium			Carbonate	-	
Calcium	3160	157.68	Bicarbonate	1171	19.20
Magnesium	473	38.88	Hydroxide		
Iron	-		Hydrogen sulfide	-	
Total Cations		3538.82	Total Anions		3538.82
Total dissolved solids, mg/l			Specific resistance @ 68°F.:		
			Observed		
NaCl equivalent, mg/l			Calculated		
Observed pH					

## WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l = Milligrams per liter Meq/l = Milligram equivalents per liter

Sodium chloride equivalent = by Dunlap &amp; Hawthorne calculation from components



Release Date:

1-15-78

P

July 26, 1977

**CONFIDENTIAL**

RECEIVED  
JUL 28 1977

State of Utah  
Department of Natural Resources  
Division of Oil, Gas & Mining  
1588 West North Temple  
Salt Lake City, Utah 84116

Re: Weber Coal 13-3  
NW/4 SW/4 Sec 3-T2N-R5E  
Summit Co., Utah

Gentlemen:

Enclosed please find the well completion report on the subject well. We are temporarily abandoning the well at this time and request that all data and logs be kept confidential for the (4) month period.

Yours very truly,

*K. G. Cervenka*  
K. G. Cervenka  
Operations Manager

Attachment

KGC/kr

**STATE OF UTAH**  
**DEPARTMENT OF NATURAL RESOURCES**  
**DIVISION OF OIL, GAS, AND MINING**

SUBMIT IN DUPLICATE\*  
 (See other instructions  
 on reverse side)

**CONFIDENTIAL**

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG \***

5. LEASE DESIGNATION AND SERIAL NO.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Weber Coal Co.

9. WELL NO.

13-3

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec 3-T2N-R5E

12. COUNTY OR PARISH  
Summit13. STATE  
Utah1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ Other Temp. Abandoned

b. TYPE OF COMPLETION:

NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other -----

2. NAME OF OPERATOR

Colorado Energetics, Inc.-Fuelco

3. ADDRESS OF OPERATOR

333 W. Hampden Ave., Englewood, CO 80110

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*

At surface 500' FWL &amp; 1400' FSL (NW/4 SW/4)

At top prod. interval reported below None

At total depth at 17,284' 2074' FWL &amp; 257' FSL

14. PERMIT NO.

43-043-30024

DATE ISSUED

5-17-76

15. DATE SPUDDED

6-26-76

16. DATE T.D. REACHED

6-15-77

17. DATE COMPL. (Ready to prod.)

-----

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\*

5981' GR, 6002.5 KB

19. ELEV. CASINGHEAD

5981'

20. TOTAL DEPTH, MD &amp; TVD

17,323' MD

21. PLUG, BACK T.D., MD &amp; TVD

Surface

22. IF MULTIPLE COMPL., HOW MANY\*

-----

23. INTERVALS DRILLED BY

-----

ROTARY TOOLS

all

CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*

None

25. WAS DIRECTIONAL SURVEY MADE

Dipmeter Survey

26. TYPE ELECTRIC AND OTHER LOGS RUN

Dual Induction Laterolog, Dual Laterolog,

27. WAS WELL CORED

BHC Sonic, CNL Density, Dipmeter, Temperature Log &amp; Cement Bond log

Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	61	3039	17 1/2"	2615 sx to surface	None
9 5/8 & 9 7/8"	40, 43.5, 47	10663	12 1/4"	900 sx	None
	53.5 & 62.8				

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
7 5/8"	9958	15,675	643		None		

30. TUBING RECORD

31. PERFORATION RECORD (Interval, size and number)

15,675-15,874 Open hole  
 14,648-14,672 23 gr., 48 holes  
 11,252-11,266 23 gr., 28 holes  
 10,945-10,992 23 gr., 94 holes  
 10,704-10,740 23 gr., 72 holes

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
	SEE ATTACHED SHEET

33. PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
-----		-----				Temp. Abandoned	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
-----	-----	-----	-----	-----	-----	-----	-----
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
-----	-----	-----	-----	-----	-----	-----	

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

Previously sent.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED



TITLE

Operations Manager

DATE

7-26-77

\*(See Instructions and Spaces for Additional Data on Reverse Side)

# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 38, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

**Item 4:** If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

**Item 18:** Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. **Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

**Item 29: "Sacks Cement":** Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

**Item 33:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

## 37. SUMMARY OF POROUS ZONES:

SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF: CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	38. GEOLOGIC MARKERS	
				NAME	MEAS. DEPTH TRUE VERT. DEPTH
Nugget	11,606	11,630	Core No.1, Sandstone, scattered shows	Kelvin	Surface
Twin Creek	10,636	10,905	DST#1, Rec 1131' drilling mud. IF 369, ISI 4130, FF 424, FSI 2852	Morrison	7698
Nugget	11,480	11,521	DST#2, Rec 313' water cut mud. FI 76, ISI 4722, FF 138, FSI 4659	Stump	8000
Nugget	11,475	11,630	DST#3 Misrun	Preuss	8070
Nugget	11,498	11,630	DST#4 Misrun	Salt	9058
Nugget	10,631	11,630	DST#5, Rec 8140' drilling mud, 1120' sulfur water. FI 1108, ISI 4582, FF 4395, FSI 4619	Twin Creek	9440
Thaynes	15,675	15,874	DST#6, Rec 3000' water cushion, 8067' drilling mud. (Misrun) IF 1407	Nugget	11,464
				Chinle	12,676
				Ankareh	13,165
				Thaynes	14,088
				Woodside	15,135
				2nd Thaynes	15,540
				2nd Ankareh	16,586

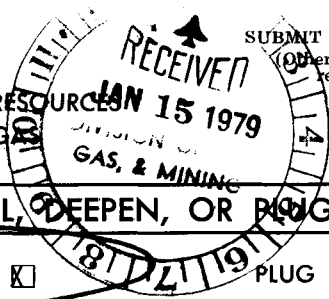
ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

<u>Depth Interval (MD)</u>	<u>Amount and kind of Material used</u>
15,675-15,874'	8000 gal 7½% HCL, AL.B.P. & 3 sx at 15,874'
14,648-14,672'	8000 gal 7½% HCL, C.I.B.P. at 15,380'
11,252-11,266'	8000 gal 7½% HCL, C.I.B.P. at 14,475'
10,945-10,992'	7500 gal 7½% HCL, C.I.B.P. at 11,199'
10,704-10,740'	7300 gal 7½% HCL, C.I.B.P. at 10,875', C.I.B.P. at 9960', 10 sx cement surface w/bolted steel plate.

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL & GAS

SUBMIT IN TRIPLICATE\*

(Other instructions on reverse side)



## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

DRILL ☐DEEPEN ☒PLUG BACK ☐

b. Type of Well

Oil Well ☐Gas Well ☒

Other

Single Zone ☒Multiple Zone ☐

2. Name of Operator

Michigan-Wisconsin Pipe Line Company

3. Address of Operator

717 17th Street, Ste 2500, Denver, Colorado 80202

4. Location of Well (Report location clearly and in accordance with any State requirements.\*)

At surface

500' ~~1111~~ & 1400' ~~1111~~, NW $\frac{1}{4}$  SW $\frac{1}{4}$ 

At proposed prod. zone

Nugget

14. Distance in miles and direction from nearest town or post office\*

3/4 mile NE of Coalville, Utah

15. Distance from proposed\*

location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)

513'

16. No. of acres in lease

810.37

17. No. of acres assigned to this well

640.00

18. Distance from proposed location\* to nearest well, drilling, completed, or applied for, on this lease, ft.

19. Proposed depth

20,000

20. Rotary or cable tools

Rotary

21. Elevations (Show whether DF, RT, GR, etc.)

GL 5981'

22. Approx. date work will start\*

2/28/79

## 23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
6-1/2	5"	18#	20,000	+ 500 sx

Operator proposes to clean out and cement squeeze existing perforations. Clean out open hole, plug back based on directional surveys and deepen to 20,000'.

Present Well Status: Temporarily abandoned.

*operator change & re-entry*

APPROVED BY THE DIVISION OF  
OIL, GAS, AND MINING

DATE: JAN 23 1979BY: Clayton B. Tugthe

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

Signed E. J. Howard

Title

Senior Drilling Engineer

Date

1/12/79

(This space for Federal or State office use)

Permit No. ....

Approval Date .....

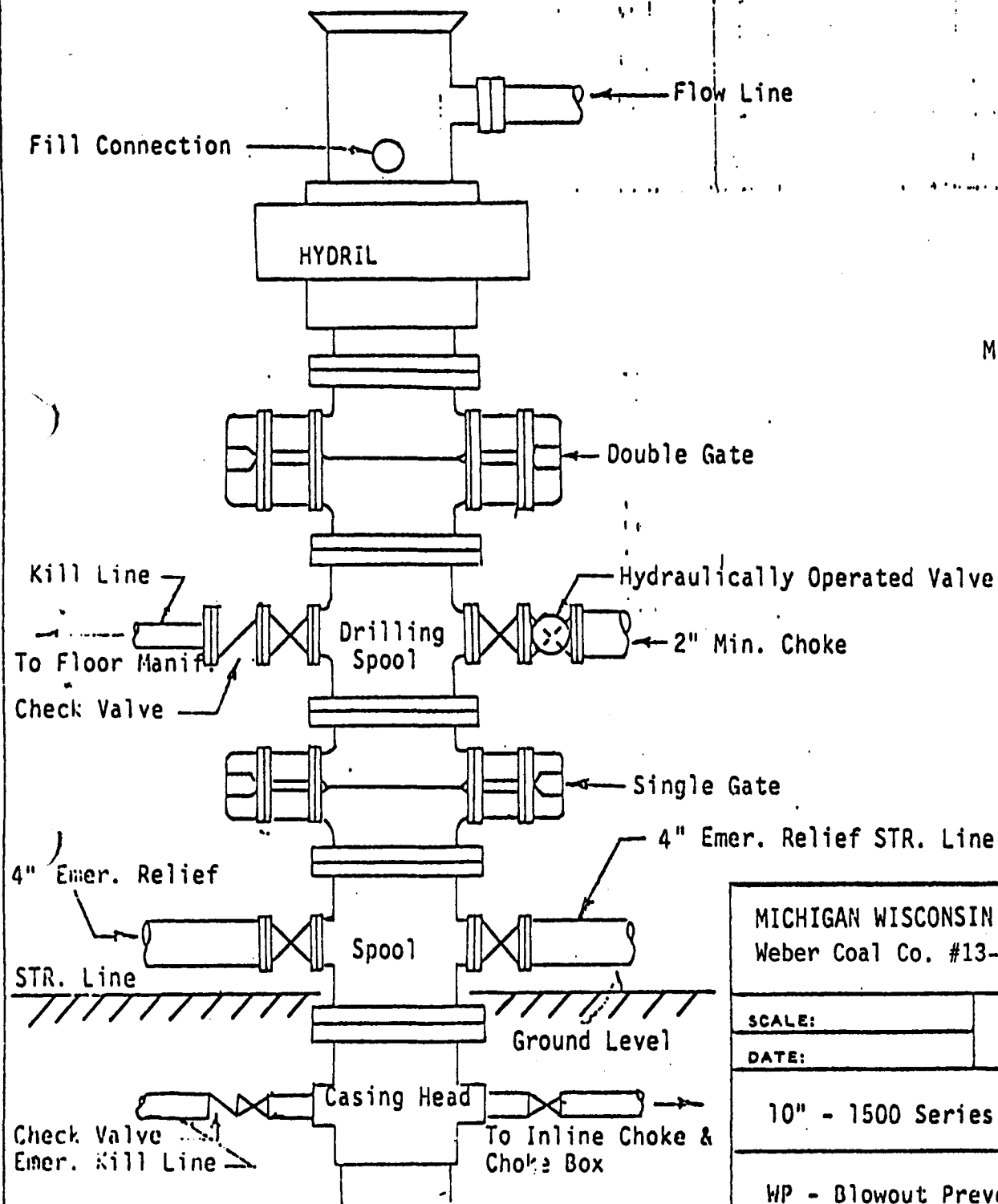
Approved by .....

Title .....

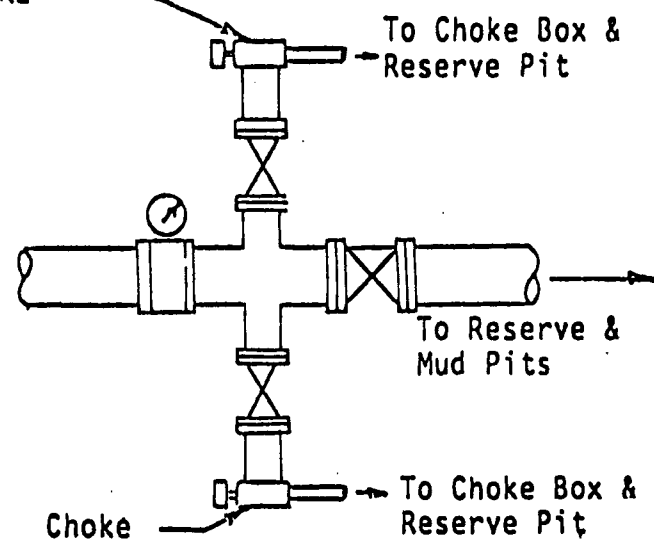
Date .....

Conditions of approval, if any:





Min. Bore 2 9/16"  
CHOKE



MICHIGAN WISCONSIN PIPELINE COMPANY  
Weber Coal Co. #13-3

SCALE:

APPROVED BY

DRAWN BY

DATE:

EGT

10" - 1500 Series

ATTACHEMENT IV

WP - Blowout Preventer

DRAWING NUMBER

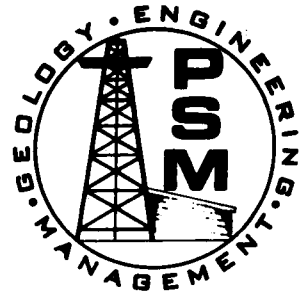
3

**PETROLEUM SUPERVISION AND MANAGEMENT, INC.**

---

1660 LINCOLN STREET  
DENVER, COLORADO 80264  
303-861-9050

P.O. BOX 1690  
MILLS, WYOMING 82644  
307-266-1276



COLORADO ENERGETICS-FUELCO-IMPEL CORP.  
NO.13-3 WEBER COAL COMPANY  
1400' FSL & 500' FWL (NWSW) SEC.3-T2N-R5E  
SUMMIT COUNTY  
UTAH

**CONFIDENTIAL**

DATA SHEET

OPERATOR:

Colorado Energetics, Inc.

ADDRESS:

Suite 1010, 333 West Hampden Avenue  
Englewood, Colorado 80110

OTHER WORKING INTEREST  
OWNERS:

Fuelco  
Box 840, 550 15th Street  
Denver, Colorado 80201

Impel Corporation  
475 17th Street  
Denver, Colorado 80202

WELL NAME:

No. 13-3 Weber Coal Company

LOCATION:

1400' FSL & 500' FWL (NW SW) Section 3-T2N-R5E

COUNTY:

Summit

STATE:

Utah

AREA:

Coalville Wildcat

ELEVATION:

5981' Ground; 6002' KB

GEOLOGIST:

R. L. Wagner

COMMENCED:

10:30 a.m. June 26, 1976

CEASED DRILLING:

9:00 p.m. June 15, 1977

CONTRACTOR:

Viersen-Cochran Drilling Company

TOOLPUSHER:

Dennis Jamieson

DRILLERS:

Albert C. Winn; Pete Santiago; J.W. Hinnant

EQUIPMENT:

Rig No. 13

TYPE DRAWWORKS:

National N-80

DRAWWORKS POWER:

Three CAT D-379 Motors

DERRICK:

Lee C. Moore 132'

PUMP:

Emsco F800 (9") Compounded

PUMP:

Gardner Denver GXR (18") Compounded

DRILL PIPE:

After intermediate 4 1/2" FH & 4 1/2" XH

DRILL COLLARS:

After intermediate 4 1/2" IF

DRILLING FLUID:

Basin Mud Service - Ben Bearden - Engineer  
Larry Clark - Engineer

DATA SHEET  
PAGE 2  
ENERGETICS, INC.  
WEBER COAL CO.

SURFACE CASING: 13 3/8" at 3039' KB

INTERMEDIATE CASING: 9 5/8" at 10,663' KB; 7 7/8" liner to 15,675' KB

DRILLING TIME: Geolograph Drill - Sentry  
One foot times

HOLE SIZE: 17 1/2" 0' - 3039'; 12 1/4" 3039' - 10,665';  
8 1/2" 10,665 - 15,841'; 6 1/2" 15,841' - 17,325'

SAMPLES: 30 foot intervals surface to 3040'  
10 foot intervals 3040' to 17,325'

MUD LOGGING UNIT: Tooke Engineering Company

ENGINEER: Steve Bergman

CORING: Core No. 1 11,606' - 11,630' Recovered 24'  
Christensen Diamond Products

CORE ANALYSIS: Core Laboratories

DRILL STEM TESTING: DST No. 1 10,636' - 10,905' Johnston  
DST No. 2 11,480' - 11,521' Johnston  
DST No. 3 11,475' - 11,630' Johnston (Misrun)  
DST No. 4 11,498' - 11,630' Johnston (Misrun)  
DST No. 5 10,631' - 11,630' Johnston

ELECTRIC LOGGING: Temperature Survey - Dresser Atlas  
Schlumberger - Dual Induction Laterolog  
BHC Sonic (Gamma Ray) Caliper  
Continuous Dipmeter  
Compensated Neutron Density

TOTAL DEPTH: 17,325' Driller; 17,289' Logger

STATUS: Will set plugs and test various zones through  
perforations.

# CHRONOLOGICAL HISTORY

DATE	DEPTH AND OPERATION	REMARKS
1976		
June 21	RURT	
22	RURT	
23	RURT	
24	RURT	
25	RURT	
26	RURT	
27	Drilling 447' (347')	Spud 10:30 a.m. 6/26/ - Drilling 12 1/4" hole.
28	Drilling 721' (274')	Drilling with 10-15,000 #wt. 80 RPM, 1150 # pump. Mud weight 8.9, Viscosity 35. Lost 65 barrels mud at 690'.
29	Drilling 995' (274')	Drilling with 20-25,000 # wt., 90 RPM, 600 # pump.
30	Drilling 1224' (229')	Mud weight 9.1, Viscosity 36.
July 1	Drilling 1480' (256')	Drilling with 25-30,000 # wt., 70 RPM, 700 # pump. Mud weight 9.2, Viscosity 35.
2	Trip 1711' (231')	
3	Drilling 1916' (205')	Drilling with 30-35,000 # wt., 60-65 RPM, 1100 # pump. Mud weight 9.4, Viscosity 36.
4	Drilling 2115' (199')	
5	Drilling 2293' (178')	Drilling with 40-45,000 # wt., 60 RPM, 1100 # pump. Mud weight 9.0. Viscosity 36.
6	Drilling 2432' (139')	Mud weight 9.1, Viscosity 38. Lost 100 barrels mud 2295-2315'; Lost 70 barrels mud 2345-2387'.
7	Drilling 2535' (103')	Drilling with 15-20,000 # wt., 60 RPM, 1150 # pump. Mud weight 9.1, Viscosity 36. Lost 50 barrels mud 2510-2515'.

CHRONOLOGICAL HISTORY  
PAGE 2  
ENERGETICS, INC.  
WEBER COAL CO.

July 8	Drilling 2672' (137')	Mud weight 9.2, Viscosity 36. Lost 50 barrels mud 2585-2595'.
9	Drilling 2823' (151')	
10	Drilling 3000' (177')	Mud weight 9.0, Viscosity 37, PV 11, YP 9, GS 1-4, FC 2/32, pH 9.0, Waterloss 15.0.
11	Reaming 313'	Opening hole to 17 1/2".
12	Reaming 827'	
13	Reaming 1069'	
14	Reaming 1499'	
15	Reaming 1930'	
16	Reaming 2144'	
17	Reaming 2412'	
18	Reaming 2532'	
19	Reaming 2680'	
20	Reaming 2835'	
21	Reaming 2922'	
22	Reaming 3039'	SLM - No correction. Preparing to run 13 3/8" casing.
23	PTD 3039'	Ran 76 joints 13 3/8", K-55, 61 # casing totaling 3054'. Cemented at 3039' KB with 1415 sx Class G, 8% gel, 1% CaCl <sub>2</sub> , 10 # Cal Seal per sack followed by 1200 sx Class G, 1% CaCl <sub>2</sub> . Plug down 10:10 p.m. 7/22
24	PTD 3039'	WOC. Ran temperature survey. Cemented through 450' one inch pipe with 600 sx Class G, 2% CaCl <sub>2</sub> .
25	PTD 3039'	Nipple up.
26	Drilling 3048' (9')	Drilling with 10-12,000 # wt., 60 RPM, 1550 # pump. Mud weight 8.8, Viscosity 54, Waterloss 28, FC 2/32 pH 9.0. Tested blind rams and manifold to 1500 psi. Top cement

CHRONOLOGICAL HISTORY  
PAGE 3  
ENERGETICS, INC.  
WEBER COAL CO.

July 26	(con't)	at 2982'.
27	Drilling 3130' (82')	Drilling with 2-8,000 # wt., 70 RPM, 1800 # pump. Mud weight 8.6, Viscosity 32.
28	Drilling 3199' (69')	Changed out bottom hole assembly.
29	Drilling 3275' (76')	Drilling with 2-4,000 # wt., 70 RPM, 1400 # pump. Mud weight 8.8, Viscosity 34.
30	Drilling 3314' (39')	Drilling with 8-10,000 # wt., 70 RPM, 1400 # pump. Mud weight 8.8, Viscosity 35.
31	Drilling 3390' (76')	Drilling with 10-11,000 # wt., 70 RPM, 1500 # pump. Mud weight 8.7, Viscosity 32.
August 1	Drilling 3444' (54')	Drilling with 4-6,000 # wt., 70 RPM, 1500 # pump.
2	Drilling 3478' (34')	Drilling with 6-8,000 # wt., 70 RPM, 1500 # pump.
3	Drilling 3550' (72')	Drilling with 12-15,000 # wt., 65 RPM, 1500 # pump.
4	Drilling 3647' (97')	Drilling with 10-25,000 # wt., 66-70 RPM, 1500 # pump.
5	Drilling 3688' (41')	Drilling with packed hole assembly.
6	Drilling 3823' (135')	Drilling with 25,000 # wt., 60 RPM, 1500 # pump.
7	Drilling 3919' (96')	
8	Drilling 4064' (145')	Drilling with 15-30,000 # wt., 75-90 RPM, 1350 # pump. Mud weight 8.9, Viscosity 32.
9	Drilling 4189' (125')	Drilling with 30-35,000 # wt., 85-90 RPM, 1350 # pump. Mud weight 9.0, Viscosity 35.
10	Drilling 4309' (120')	
11	PTD 4327' (18')	Laying down fish. Lost 40,000 # while drilling - went in with overshot and recovered fish.

CHRONOLOGICAL HISTORY  
PAGE 4  
ENERGETICS, INC.  
WEBER COAL CO.

August 12	Drilling 4421' (94')	Drilling with 25-30,000 # wt., 80-90 RPM, 1550 # pump. Mud weight 9.1, Viscosity 32.
13	Drilling 4560' (139')	Drilling with 38,000 # wt., 90 RPM, 1550 # pump. Mud weight 9.1, Viscosity 33.
14	Drilling 4669' (109')	Drilling with 25,000 # wt., 90 RPM, 1450 # pump.
15	Drilling 4766' (97')	
16	Drilling 4858' (92')	Drilling with 25,000 # wt., 90 RPM, 1600 # pump. Mud weight 9.0, Viscosity 32.
17	Trip 4999' (141')	
18	Drilling 5039' (40')	Drilling with 35-40,000 # wt., 70 RPM, 1600 # pump. Twisted off at jars - went in with overshot and recovered fish.
19	Drilling 5125' (86')	Mud weight 9.9, Viscosity 34.
20	Drilling 5268' (143')	Drilling with 35,000 # wt., 65 RPM, 1550 # pump. Mud weight 8.9, Viscosity 32. Preparing to trip for possible hole in pipe.
21	Drilling 5311' (43")	Layed down two washed out drill collars.
22	Drilling 5406' (95')	Drilling with 38,000 # wt., 70 RPM, 1650 # pump. Mud weight 8.8, Viscosity 32.
23	Drilling 5494' (88')	Drilling with 30-35,000 # wt., 75 RPM, 1650 # pump. Mud weight 8.9, Viscosity 33.
24	Drilling 5527' (33')	
25	Drilling 5617' (90')	Drilling with 40,000 # wt., 70 RPM, 1650 # pump. Mud weight 8.9, Viscosity 34.
26	Drilling 5736' (119')	



CHRONOLOGICAL HISTORY  
PAGE 5  
ENERGETICS, INC.  
WEBER COAL CO.

August 27	Drilling 5837' (101')	Mud weight 8.8, Viscosity 33.
28	Drilling 5951' (114')	Drilling with 25-35,000 # wt., 70 RPM, 1650 # pump. Mud weight 9.0, Viscosity 34.
29	Drilling 6000' (49')	Mud weight 8.9, Viscosity 34. 30' fill after trip.
30	Drilling 6114' (114')	
31	Drilling 6209' (95')	Drilling with 30-38,000 # wt., 70 RPM, 1750 # pump. Mud weight 8.8, Viscosity 33.
Sept. 1	Drilling 6298' (89')	Drilling with 35-38,000 # wt., 70 RPM, 1750 # pump.
2	Drilling 6340' (42')	Mud weight 8.9, Viscosity 38.
3	Drilling 6423' (83')	Drilling with 35-38,000 # wt., 60-70 RPM, 1750 # pump. Mud weight 8.9, Viscosity 34.
4	Drilling 6503' (80')	Drilling with 38-40,000 # wt., 70 RPM, 1700 # pump. Mud weight 9.0, Viscosity 35.
5	Trip 6575' (72')	
6	Drilling 6610' (35')	Drilling with 30-45,000 # wt., 55- 70 RPM, 1700 # pump. Mud weight 8.9, Viscosity 33.
7	Drilling 6700' (90')	Drilling with 30,000 # wt., 60 RPM, 1700 # pump. Mud weight 8.9, Viscosity 34.
8	Drilling 6783' (83')	
9	Drilling 6854' (71')	Drilling with 25-35,000 # wt., 60- 70 RPM, 1500 # pump. Mud weight 8.9, Viscosity 35.
10	Drilling 6933' (79')	Drilling with 35-40,000 # wt., 70 RPM, 1500 # pump. Mud weight 8.9, Viscosity 34.
11	Drilling 7031' (98')	Mud weight 8.9, Viscosity 34.
12	Drilling 7097' (66')	

CHRONOLOGICAL HISTORY  
PAGE 6  
ENERGETICS, INC.  
WEBER COAL CO.

Sept. 13	Drilling 7213' (116')	Drilling with 30-35,000 # wt., 60-65 RPM, 1500 # pump. Mud weight 9.0, Viscosity 36.
14	Drilling 7316' (103')	Drilling with 35-40,000 # wt., 65-70 RPM, 1500 # pump. Mud weight 9.0, Viscosity 36.
15	Trip 7398' (82')	
16	Drilling 7498' (100')	Drilling with 3-35,000 # wt., 65 RPM, 1500 # pump. Mud weight 9.1, Viscosity 36.
17	Drilling 7596' (98')	
18	Drilling 7707' (111')	Drilling with 30,000 # wt., 70 RPM, 1500 # pump. Mud weight 8.9, Viscosity 35.
19	Drilling 7806' (99')	Mud weight 8.9, Viscosity 36.
20	Trip 7876' (70')	
21	Drilling 7892' (16')	Drilling with 30,000 # wt., 60-65 RPM, 750 # pump. Magnafluxed collars and changed over mud system to a salt-saturated Polymer.
22	Drilling 7964' (72')	Mud weight 9.1, Viscosity 33, PV 7, YP 4, GS % FC 1/32, Waterloss 14, pH 9.0, Chlorides 75,000 ppm.
23	Drilling 8012' (48')	Drilling with 25,000 # wt., 70 RPM, 1400 # pump. Mud weight 9.6, Viscosity 42, Waterloss 14, FC 1/32. pH 9.5, Chlorides 240,000 ppm.
24	Drilling 8097' (85')	Drilling with 25,000 # wt., 70 RPM, 1500 # pump. Mud weight 9.7, Viscosity 36, Waterloss 10, FC 1/32, pH 9.5, Salt 300,000 ppm.
25	Drilling 8168' (71')	
26	Drilling 8196' (28')	Drilling with 10,000 # wt., 70 RPM, 1500 # pump. Lost 30 barrels mud. Mud weight 9.5, Viscosity 32, Waterloss 10, FC 2/32, pH 11.5, Salt 264,000 ppm.

CHRONOLOGICAL HISTORY  
PAGE 7  
ENERGETICS, INC.  
WEBER COAL CO.

Sept. 27	Drilling 8218' (22')	Drilling with 20,000 # wt., 70 RPM, 1650 # pump.
28	Drilling 8289' (71')	Drilling with 20-30,000 # wt., 70 RPM, 13-1700 # pump. Mud weight 9.5, Viscosity 35, Waterloss 8.0, FC 2/32, pH 11, Salt 247,000 ppm. 10% LCM. Lost approximately 250 barrels mud 8257-8268'.
29	Drilling 8348' (59')	Mud weight 9.7, Viscosity 33, Waterloss 7.8, FC 2/32, pH 11.5, Salt 272,500 ppm. Trip for hole in pipe.
30	Drilling 8412' (64')	Drilling with 25-30,000 # wt., 70 RPM, 1300 # pump. Mud weight 9.7, Viscosity 32, Waterloss 7.6, FC 2/32, pH 11.5, Salt 265,000 ppm. Trip for hole in pipe.
Oct. 1	Drilling 8476' (64')	Mud weight 9.5, Viscosity 32, Waterloss 8.0, FC 2/32, pH 12, Salt 231,000 ppm.
2	Drilling 8519' (43')	Drilling with 20,000 # wt., 70 RPM, 1400 # pump. Mud weight 9.5, Viscosity 37, Waterloss 6.4, FC 2/32, pH 12.0, Salt 206,250 ppm.
3	Drilling 8593' (74')	Mud weight 9.5, Viscosity 32, Waterloss 6.2, FC 2/32, pH 12.0, Salt 184,800 ppm.
4	Drilling 8680' (87')	Drilling with 25-27,000 # wt., 70 RPM, 1375 # pump. Mud weight 9.4, Viscosity 34, Water loss 6.0, FC 2/32, pH 11.5, Salt 175,000 ppm.
5	Trip 8716' (36')	Check collars.
6	Drilling 8793' (77')	Drilling with 15,000 # wt., 70 RPM, 1400 # pump. Mud weight 9.5, Viscosity 32, Waterloss 9.2, FC 2/32, pH 11.5, Salt 182,000 ppm.
7	Drilling 8889' (96')	
8	Drilling 8949' (60')	Drilling with 25,000 #wt., 70 RPM, 1200 # pump. Mud weight 9.4, Viscosity 32, Waterloss 10, FC 2/32, pH 12, Salt 170,000 ppm.

CHRONOLOGICAL HISTORY  
PAGE 8  
ENERGETICS, INC.  
WEBER COAL CO.

Oct. 9	PTD 8955' (6')	Laying down drill pipe for Tuboscope install H <sub>2</sub> S detector.
10	PTD 8955' (0')	Going in hole-breaking circulation. Added Ironite Sponge to mud-H <sub>2</sub> S detector ineffective.
11	Drilling 9043' (88')	Drilling with 25,000 # wt., 65-70 RPM, 1200-1400 # pump. Mud weight 9.4, Viscosity 32, Waterloss 12, FC 2/32, pH 11, Salt 170,000 ppm.
12	Drilling 9200' (157')	Drilling with 10-28,000 # wt., 70 RPM, 1400 # pump. Mud weight 9.7, Viscosity 35, Waterloss 11.6, FC 2/32, pH 11.0, Salt 183,500 ppm.
13	PTD 9308' (108')	Pulled 5 stands off bottom. Mixing mud and LCM. Mud weight 10.0, Viscosity 33, Waterloss 12, FC 2/32, pH 10.0, Salt 264,000 ppm.
14	Drilling 9368' (60')	Drilling with 5-10,000 # wt., 70 RPM, 1350 # pump. Mud weight 9.5, Viscosity 35, Waterloss 8.0, FC 2/32, pH 12, Salt 181,500 ppm. LCM 15%.
15	Drilling 9421' (53')	Drilling with 10-12,000 # wt., 70 RPM, 1500 # pump. Mud weight 9.9, Viscosity 35, Waterloss 8, FC 2/32, pH 11.5, Salt 264,000 ppm.
16	Drilling 9471 (50')	Drilling with 30-32,000 # wt., 70 RPM, 1450 # pump. Mud weight 10.0, Viscosity 34, Waterloss 8.0, FC 2/32, pH 11, Salt 280,500 ppm.
17	PTD 9473' (2')	Stuck drill pipe-spotted oil and pipe lax-jarred with no results. Spotted 60 barrels fresh water.
18	PTD 9473' (0')	Displaced hole with water. Ran free point. Tried to back off and lost shot tool in hole. Trip out of hole-found twist off in drill pipe.

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Oct. 19	PTD 9473' (0')	Running in string shot to back off.
20	PTD 9473' (0')	Running free point.
21	PTD 9473' (0')	Preparing to perforate 9" collars.
22	PTD 9473' (0')	Preparing to wash over fish.
23	PTD 9473' (0')	Washing over fish at 9073'.
24	PTD 9473' (0')	Trip out of hole-washed over fish to 9127'.
25	PTD 9473' (0')	Running free point-Could not recover fish.
26	PTD 9473' (0')	Trip out with wash pipe-Washed over to 9130'.
27	PTD 9473' (0')	Washing over fish.
28	PTD 9473' (0')	Pulling out of hole with jars.
29	PTD 9473' (0')	Trip in with wash pipe.
30	PTD 9473' (0')	Pulling out of hole with wash pipe. Washed over fish to 9096'.
31	PTD 9473' (0')	Washing over fish at 9138'.
Nov. 1	PTD 9473' (0')	Pulling out of hole with partial fish.
2	PTD 9473' (0')	Washing over drill collars at 9175'.
3	PTD 9473' (0')	Preparing to back off at 9180'.
4	PTD 9473' (0')	Preparing to run free point.
5	PTD 9473' (0')	Washing over fish at 9208'.
6	PTD 9473' (0')	Trip in to screw in to fish.
7	PTD 9473' (0')	Pulling out of hole with wireline.
8	PTD 9473' (0')	Running logs by Schlumberger. Ran BHC Sonic/Gamma Ray/ Cal. & Dipmeter. Now running DIL.

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Nov. 9	PTD 9473' (0')	Wait on cement. Spot plug with 620 sx Type "G", 1/4# Flocele 1 sack sand added at hopper. Top cement 8550'.
10	PBTD 8550' (0')	Wait on cement.
11	PBTD 8550' (0')	Check drill collars and wait on Dyna Drill.
12	PTD 8767' (217')	Drilled cement from 8550-8767'.
13	PTD 8810' (43')	Drilled cement to 8810'. Layed down Dyna Drill. Preparing to set plug.
14	PTD 8810' (0')	Cemented with 100 sacks Type "G" with 200 # walnut shells added.
15	PTD 8810' (0')	Wait on cement. Drilled cement from 8724-8785'. Set plug at 8785 with 300 sacks Type "G" with 1% CFR 2, 1% CaCl <sub>2</sub> , 1/4 # Flocele 1 sack, 20# 100 mesh sand, 1 sack, 18% salt.
16	PTD 8484' (0')	Top cement 8452'.
17	Drilling 8508' (24')	Drilling with bent sub. Dyna Drill and Diamond bit.
18	Drilling 8518' (10')	Drilling with 20,000 # wt., 70 RPM, 1750 # pump. Mud weight 9.7, Viscosity 43, Waterloss 5.4, FC 2/32 pH 11.4, Cl 225,000 ppm. Layed down Dyna Drill.
19	Drilling 8551' (33')	
20	Trip 8554' (3')	Pick up Dyna Drill
21	Drilling 8593' (39')	
22	Drilling 8625' (32')	Drilling with 14-16,000 # wt., and Dyna Drill.
23	Trip 8631' (6')	
24	Drilling 8647' (16')	Drilling with 10-20,000 # wt., and Dyna Drill.

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Nov. 25	Trip 8659' (12')	
26	Trip 8688' (29')	
27	Drilling 8700' (12')	Drilling with 15-18,000 # wt., 55 RPM, 1600 # pump.
28	Drilling 8759' (59')	Mud weight 9.8, Viscosity 44, Water- loss 5.2, FC 2/32, pH 11.5, Salt 210,000 ppm.
29	Drilling 8813' (54')	
30	Drilling 8860' (47')	Drilling with 10,000 # wt., 70 RPM, 1700 # pump.
Dec. 1	Drilling 8885' (25')	
2	Drilling 8916' (31')	
3	Drilling 8940' (24')	Drilling with 10-15,000 # wt., 70 RPM, 1600 # pump. Trip for hole in 16.60 # pipe.
4	Drilling 8971' (31')	
5	Drilling 9012' (41')	
6	Drilling 9038' (26')	Mud weight 9.9, Viscosity 44, Water- loss 4.8, FC 2/32, pH 11.5, Salt 273,000 ppm.
7	Drilling 9085' (47')	
8	Drilling 9152' (67')	Drilling with 8-10,000 # wt., 75- 80 RPM, 1600 # pump.
9	Drilling 9214' (62')	
10	Drilling 9313' (99')	Drilling with 10-15,000 # wt., 70 RPM, 1300 # pump. Mud weight 10.3, Viscosity 46, Waterloss 4.6, FC 2/32, pH 11.5, Salt 289,000 ppm.
11	Drilling 9398' (85')	
12	Drilling 9462' (64')	Salt 300,000 ppm.
13	Drilling 9522' (60')	Drilling with 22-25,000 # wt., 70 RPM, 1350 # pump. Salt 310,000 ppm.

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Dec. 14	Drilling 9542' (20')	
15	Drilling 9600' (58')	Drilling with 20-30,000 # wt., 75 RPM, 1390 # pump.
16	Drilling 9628' (28')	
17	Drilling 9635' (7')	Wash 360' to bottom after trip. Mud weight 10.4, Viscosity 42, Waterloss 5.0, FC 2/32, pH 11.5, Salt 297,000 ppm, LCM 7%.
18	Trip 9653' (18')	
19	Drilling 9686' (33')	Drilling with 40,000 # wt., 70 RPM, 1400 # pump. Mud weight 10.7, Viscosity 43, Waterloss 4.0, FC 2/32, pH 11.5, Salt 297,000 ppm, LCM 6%.
20	Drilling 9744' (58')	Reaming tite hole.
21	Drilling 9821' (77')	Drilling with 40-45,000 # wt., 70 RPM, 1600 # pump.
22	Drilling 9854' (33')	Mud weight 10.9, Viscosity 44, Waterloss 4.8, FC 2/32, pH 11.5. Reamed tite hole after trip from 9420' to 9842'.
23	Drilling 9933' (79')	Drilling with 30-38,000 # wt., 70-75 RPM, 1250 # pump. Mud weight 11.0, Viscosity 45, Waterloss 5.0, FC 1/32, pH 10.5.
24	Drilling 9987' (39')	Made short trip and reamed hole.
25	Drilling 10,026' (39')	Merry Christmas
26	PTD 10,080' (54')	Making short trip, tite hole 9344' to 9530'.
27	Drilling 10,117' (37')	Drilling with 30-40,000 # wt., 75 RPM, 1400 # pump. Mud weight 11.4, Viscosity 46, Waterloss 4.7, FC 2/32, pH 11.5. Reamed 9100'-9467' and 10,020'-10,080'. Short trip 10,111-OK.



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Dec. 28	Drilling 10,150' (33')	
29	Drilling 10,189' (39')	Drilling with 38-40,000 # wt., 75 RPM, 1600 # pump.
30	Trip 10,203' (14')	
31	Drilling 10,243' (40')	Drilling with 35-40,000 # wt., 70-75 RPM, 1600 # pump. Mud weight 11.5, Viscosity 44, Water- loss 4.9, FC 2/32, pH 11.5.
1977		
Jan. 1	PTD 10,282' (39')	Waiting on fishing tools. Drill pipe parted on short trip-left BHA (608.66') and 14 stands and double in hole.
2	PTD 10,282 (0')	Inspecting drill collars. Hoisted fish out of hole. Left 3 cones, shank and bearings on bottom.
3	PTD 10,282' (0')	Mixing mud and LCM. Went in with bit to condition hole-tite at 9104'-lost returns. Pulled up to 8174'.
4	PTD 10,282' (0')	Reaming bridges to bottom.
5	PTD 10,282' (0')	Trip out to pick up junk basket.
6	PTD 10,282' (0')	No recovery on basket. Preparing to go in with magnet.
7	PTD 10,282' (0')	Recovered bearings with magnet, preparing to go in hole with junk mill.
8	PTD 10,282' (0')	Milling on junk.
9	PTD 10,282' (0')	Going in hole with magnet.
10	PTD 10,282' (0')	Going in hole with magnet.
11	Drilling 10,310' (28')	Drilling with 45,000 # wt., 55 RPM, 1550 # pump. SLM-8.0' correction.

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Jan. 12	Drilling 10,341' (31')	Mud weight 11.5, Viscosity 48, Waterloss 5.0, FC 2/32, pH 12.0.
13	Drilling 10,365' (24')	Making short trip.
14	Drilling 10,434' (69')	Drilling with 35-40,000 # wt., 70 RPM, 1500 # pump.
15	Trip 10,474' (40')	
16	Drilling 10,532' (58')	Drilling with 40-50,000 # wt., 55 RPM, 1500 # pump. Mud weight 11.5+, Viscosity 41, Waterloss 5.0, FC 2/32, pH 12.0.
17	Trip 10,576' (44')	
18	Drilling 10,636' (60')	Drilling with 35-40,000 # wt., 55 RPM, 1500 # pump. Mud weight 11.5+, Viscosity 48, Waterloss 5.0, FC 2/32, pH 11.5, Ca +160.
19	PDT 10,662' (26')	Hoisting to log.
20	PTD 10,665' (SLM)	Conditioning hole to run casing. Ran Dual Laterolog, BHC Sonic. CDM. Logger Total Depth 10,665'.
21	PTD 10,665' (0')	Running 9 5/8" casing.
22	PTD 10,665' (0')	Waiting on cement. Ran temperature log. Top cement at 8270'. Ran 246 joints 9 5/8" and 9 7/8" casing totaling 10,674.87'. Cemented at 10,663' KB with 600 sacks 50-50 Pozmix, 2% Gel, 30% SSA-1, Salt saturated followed by 300 sacks Class "G", 30% SSA-1, 18% salt, 0.3% HR5, 0.75% CFR2. Plug down 8:15 a.m. 1-22-77.
23	PTD 10,665' (0')	Nipple up.
24	PTD 10,665' (0')	Nipple up and test B.O.P.
25	PTD 10,665' (0')	Picking up 4 1/2" drill pipe.
26	Drilling 10,719' (54')	Drilling with 40-45,000 # wt., 50 RPM, 1100 # pump. Top cement 10,578' - On bottom drilling at 6:30 p.m. 1-25-77.

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Jan. 27	Drilling 10,782' (63')	Mud weight 10.7, Viscosity 40, Waterloss 5.8, FC 2/32, pH 11.5.
28	Drilling 10,885' (103')	Drilling with 45,000 # wt., 45 RPM, 1400 # pump. Checked log at 10,810'. Carbide gas in 1 hour 25 minutes.
29	PTD 10,905' (20')	Hoisting Drill Stem Test tools, went in with tools and set slips on hook inadvertently. Backed off then screwed back in. Wait on new safety joint and seal.
30	PTD 10,905' (0')	Hoisting Drill Stem Test No. 1 10,636' - 10,905'.
31	Drilling 10,954' (49')	Drilling with 45,000 # wt., 45 RPM, 1500 # pump. Mud weight 9.9, Viscosity 38, Waterloss 6.0, FC 2/32, pH 12.0.
Feb. 1	Trip 11,007' (53')	
2	Drilling 11,101' (94')	Drilling with 35,000 # wt., 45 RPM, 1500 # pump. Mud weight 9.7, Viscosity 38, Waterloss 6.4.
3	Drilling 11,194' (93')	Drilling with 42,000 # wt., 45-50 RPM, 1500 # pump. Mud weight 9.7, Viscosity 38.
4	PTD 11,206' (12')	Preparing to hoist and lay down drill pipe.
5	PTD 11,206' (0')	Inspecting drill pipe.
6	PTD 11,206' (0')	Inspecting drill pipe.
7	Drilling 11,276' (70')	Drilling with 45,000 # wt., 45 RPM, 1300 # pump. Mud weight 9.6, Viscosity 41, Waterloss 7.0, FC 2/32, pH 11.5.
8	Drilling 11,387' (111')	
9	Trip 11,435' (48')	
10	PTD 11,521' (86')	Going in hole with DST No. 2 11,480' to 11,521'.

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Feb. 11	Drilling 11,571' (50')	Drilling with 40,000 # wt., 45 RPM, 1400 # pump. Mud weight 9.2, Viscosity 42, Waterloss 7.2, FC 2/32, pH 11.5.
12	PTD 11,628' (57')	Working on pump. Cutting Core No. 1, 11,606' - 11,630'.
13	PTD 11,630' (2')	Trip out to pick up test tools, reamed core hole.
14	PTD 11,630' (0')	Hoisting Drill Stem Test No. 4 11,498' - 11,630'. Misrun. Ran Drill Stem Test No. 3, 11-475'-11,630' - Misrun.
15	PTD 11,630' (0')	Running Drill Stem Test No.5, 10,631' - 11,630'.
16	Drilling 11,678' (48')	Drilling with 45,000 # wt., 45 RPM, 1500 # pump. Mud weight 9.2, Viscosity 38, Waterloss 7.6, FC 2/32, pH 11.5.
17	Drilling 11,903' (225')	Drilling with 42-45,000 # wt., 45 RPM, 1500 # pump. Lost approximately 150 barrels mud 11,860'-11,890'.
18	Drilling 12,022' (119')	Drilling with 42-45,000 # wt., 45 RPM, 1400 # pump. Mud weight 9.0, Viscosity 40, Waterloss 8.0, FC 2/32, pH 11.5.
19	Trip 12,176' (154')	Mud weight 8.9, Viscosity 36, Waterloss 8.0, FC 2/32, pH 11.5.
20	PTD 12,283' (107')	Working on pump.
21	Trip 12,301' (18')	
22	Drilling 12,356' (55')	Drilling with 48,000 # wt., 45 RPM, 1350 # pump.
23	Drilling 12,416' (60')	Drilling with 50,000 # wt., 45 RPM, 1350 # pump. Mud weight 8.9, Viscosity 38, Waterloss 8.0, FC 2/32, pH 11.5.

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Feb. 24	Drilling 12,487' (71')	
25	Drilling 12,522' (35')	Drilling with 40,000 # wt., 45 RPM, 1350 # pump. Mud weight 8.9, Viscosity 38.
26	Trip 12,594' (72')	
27	Drilling 12,624' (30')	Drilling with 45-50,000 # wt., 45 RPM, 1000 # pump. Mud weight 8.9, Viscosity 42, Waterloss 8.0, FC 2/32, pH 11.5.
28	Trip 12,642' (18')	
March 1	Drilling 12,704' (62')	Drilling with 40-45,000 # wt., 45 RPM, 1050 # pump. Mud weight 8.9, Viscosity 39, Waterloss 8.0, FC 2/32, pH 11.5.
2	PTD 12,733' (19')	Pulled 26 stands to work on draw-works.
3	Drilling 12,735' (12')	Drilling with 40,000 # wt., 50 RPM, 1050 # pump. Mud weight 8.9, Viscosity 39.
4	Trip 12,782' (47')	
5	Drilling 12,833' (51')	Drilling with 40-44,000 # wt., 45 RPM, 1350 # pump.
6	Drilling 12,898' (65')	
7	Drilling 12,950' (52')	Drilling with 42-48,000 # wt., 50 RPM, 1350 # pump. Mud weight 8.9, Viscosity 35, Waterloss 7.8, FC 2/32, pH 11.5.
8	Drilling 13,023' (73')	
9	Drilling 13,058' (35')	Drilling with 20-45,000 # wt., 45 RPM, 1150 # pump. Mud weight 8.9, Viscosity 35, Waterloss 7.8, FC 2/32, pH 11.5.
10	Drilling 13,069' (11')	
11	Trip 13,116' (47')	

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March 12	Trip 13,149' (33')	Lost cone off Bit No. 21.
13	PTD 13,157' (8')	Fishing for cone with magnet.
14	Drilling 13,178' (21')	Drilling with 35-45,00 # wt., 45 RPM, 1050 # pump. Mud weight 8.8, Viscosity 36, Waterloss 7.4, FC 2/32, pH 11.5.
15	Drilling 13,260' (82')	
16	Drilling 13,283' (23')	Mud weight 8.9, Viscosity 36, Waterloss 6.0, FC 2/32, pH 11.5.
17	Trip 13,323' (40')	
18	Drilling 13,346' (23')	Drilling with 30-40,000 # wt., 40 RPM, 1450 # pump. Mud weight 8.9, Viscosity 35, Waterloss 6.8, FC 2/32, pH 12.0.
19	PTD 13,353' (7')	Hoisting overshot. Drill pipe parted - left BHA (747.92'), 18 stands and 2 singles in hole.
20	Drilling 13,360' (7')	Drilling with 24-40,000 # wt., 40 RPM, 1375 # pump.
21	Drilling 13,380' (26')	Trip for hole in pipe.
22	Drilling 13,480' (94')	Drilling with 38-40,000 # wt., 50 RPM, 1425 # pump. Mud weight 8.9, Viscosity 35, Waterloss 7.6, FC 2/32, pH 11.5.
23	Drilling 13,566' (86')	
24	Drilling 13,652' (86')	Mud weight 9.0, Viscosity 38, Water- loss 6.8, FC 2/32, pH 11.5.
25	Drilling 13,705' (53')	Drilling with 30-40,000 # wt., 50 RPM, 1450 # pump. Mud weight 8.9, Viscosity 40, Waterloss 6.2, FC 2/32, pH 11.5.
26	Drilling 13,773' (68')	
27	Drilling 13,798' (25')	

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March 28	Drilling 13,869' (71')	Drilling with 35-40,000 # wt., 48-50 RPM, 1450 # pump. Mud weight 8.9, Viscosity 38, Water-loss 6.2, FC 2/32, pH 11.3.
29	Drilling 13,966' (97')	Drilling with 40-45,000 # wt., 48 RPM, 1450 # pump. Mud weight 8.9, Viscosity 38.
30	Drilling 14,080' (114')	Mud weight 9.0, Viscosity 38, Waterloss 6.2, FC 2/32, pH 11.2.
31	Trip 14,152' (72')	
April 1	Drilling 14,217' (65')	Drilling with 38-40,000 # wt., Mud weight 9.0, Viscosity 40, Waterloss 6.2, FC 2/32, pH 11.3.
2	Drilling 14,274' (57')	
3	Drilling 14,310' (36')	Trip for Bit # 30. Drilling with 45,000 # wt., 48 RPM, 1500 # pump, Mud weight 9.0, Viscosity 40, Waterloss 6.0, FC 2/32, pH 11.8.
4	Drilling 14,329' (19')	Mud weight 9.0, Viscosity 41, Waterloss 6.0, FC 2/32, pH 12.0, Trip for hole in drill pipe.
5	Drilling 14,388' (59')	Pump pressure 1525-1550. Mud weight 9.0, Viscosity 39, Waterloss 6.2, FC 2/32, pH 12.0.
6	Drilling 14,411' (23')	Trip for Bit No. 31. Drilling with 40,000 # wt., 40 RPM, 1600 # pump, Mud weight 9.0, Viscosity 41, Waterloss 6.0, FC 2/32, pH 12.0.
7	Drilling 14,462' (51')	
8	Drilling 14,507' (45')	Drilling with 45-48,000 # wt., 45 RPM, 1550 # pump. Mud weight 9.0, Viscosity 38.
9	Trip 14,531' (24')	Preparing to change out rotary table.
10	Drilling 14,542' (11')	Drilling with 45-48,000 # wt., 45 RPM, 1550 # pump. Mud weight 9.0, Viscosity 40, Waterloss 6.2, FC 2/32, pH 12.0.
11	Drilling 14,589' (47')	

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April 12	Drilling 14,627' (38')	Mud weight 9.0, Viscosity 37.
13	Drilling 14,690' (63')	Drilling with 44-48,000 # wt., 45 RPM, 1050 # pump. Mud weight 9.0, Viscosity 69, Waterloss 6.0, FC 2/32, pH 12.0. Lost approximately 150 barrels mud at 14,666'-14,668'.
14	Drilling 14,753' (63')	
15	Drilling 14,793' (40')	Drilling with 30,000 # wt., 45 RPM, 1000 # pump. Mud weight 8.9, Viscosity 47.
16	Drilling 14,898' (105')	Drilling with 40-42,000 # wt., 45 RPM, 1025 # pump. Mud weight 8.8, Viscosity 40.
17	Drilling 14,975' (77')	Drilling with 40-45,000 # wt., 45 RPM, 1050 # pump. Mud weight 8.8, Viscosity 40, Waterloss 6.0, FC 2/32, pH 11.8.
18	Drilling 15,041' (66')	Drilling with 42-45,000 # wt., 45 RPM, 1050 # pump, Mud weight 8.9, Viscosity 48, Waterloss 5.8, FC 2/32, pH 12.0.
19	Drilling 15,099' (58')	Drilling with 42-45,000 # wt., 45 RPM, 1050 # pump, Mud weight 8.9, Viscosity 52, Waterloss 5.8, FC 2/32, pH 12.0.
20	Drilling 15,130' (31')	Drilling with 30-45,000 # wt., 45 RPM, 1100 # pump. Mud weight 8.8, Viscosity 53, Waterloss 6.0, FC 2/32, pH 12.0, 1% LCM.
21	Drilling 15,210' (80')	Drilling with 45,000 wt., 45 RPM, 1100 # pump. Mud weight 8.8, Viscosity 48, Waterloss 5.8, FC 2/32, pH 11.5, 2% LCM.
22	Drilling 15,267' (57')	Drilling with 45-48,000 # wt., 45 RPM, 1100 # pump, Mud weight 8.8, Viscosity 50, Waterloss 6.0, FC 2/32, pH 11.5, 2% LCM.
23	Drilling 15,325' (58')	Drilling with 45-48,000 # wt., 45 RPM, 1100 # pump. Mud weight 8.8, Viscosity 46, Waterloss 5.8, FC 2/32, pH 11.5, 2% LCM.



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April 24	Drilling 15,418' (93')	Drilling with 45-48,000 # wt., 45 RPM, 1100 # pump. Mud weight 8.8, Viscosity 46, Waterloss 6.0, FC 2/32, pH 11.8, 1% LCM.
25	Tripping 15,453' (35')	Drilling with 45-48,000 # wt., 45 RPM, 1100 # pump, Mud weight 8.9, Viscosity 52, Waterloss 5.8, FC 2/32, pH 11.8, trace LCM.
26	Drilling 15,513 (60')	Drilling with 42-48,000 # wt., 45 RPM, 1150 # pump. Mud weight 8.9, Viscosity 47, Waterloss 5.8, FC 2/32, pH 12.0, trace LCM.
27	Drilling 15,621' (108')	Drilling with 42-48,000 # wt., 45 RPM, 1150-1250 # pump. Mud weight i.i, Viscosity 47, Waterloss 5.8, FC 2/32, pH 12.0.
28	Drilling 15,722' (101')	Drilling with 42-48,000 # wt., 45 RPM, 1150-1200-1300 # pump. Mud weight 8.9, Viscosity 53, Waterloss 6.0, FC 2/32, pH 12.0.
29	Drilling 15,821' (99')	Drilling with 42-45,000 # wt., 45 RPM, 1200 # pump. Mud weight 8.8, Viscosity 48, Waterloss 6.0, FC 2/32, pH 12.0.
30	Circulating 15,841' (20')	Drilling with 45,000 # wt., 45 RPM, 100-1200 # pump. Mud weight 8.9, Viscosity 50, Waterloss 6.0, FC 2/32, pH 12.0, 3% LCM. 4 unit gas kick- 15,830' to 15,841; Lost circulation zone. Lost 300 barrels mud.
May 1	Circulating 15,841' (0')	Circulating mud, losing 21.7 Barrel: an hour. Mud weight 8.6, Viscosity 46, Waterloss 6.2, FC 2/32, pH 12.5 3.5% LCM.
2	Waiting 15,841' (0')	Waiting for hole to seal off after spotting 4000 # 100 mesh sand on bottom. Mud weight 8.5, Viscosity 56, Waterloss 6.2, FC 2/32, pH 11.5, 3% LCM. Losing 6 1/4 barrels an hour.

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May 15	PTD 15,841' (0')	Laying down 4 1/2" drill pipe. Hang liner at 15,676' / top liner 9958'. Cemented with 90 sacks Class "G", 90% SSA, 2% gel, 5% KCL, 5% HR12. Ran temperature survey.
16	PTD 15,841' (0')	Preparing to test BOP. Ran cement bond log. Stuck log at 15,346'. Pulled loose and lost bull plug and bottom centralizer.
17	PTD 15,841' (0')	Picking up 3 1/2" drill pipe. Tested blind rams, pipe rams, and manifold to 3000 psi. Test Hydrill to 1500 psi. Test safety valve and Kelly Cock valve to 3000 psi.
18	PTD 15,841' (0')	Drilling float collar at 15,626'. Recovered logging tool. Tested casing to 750 psi.
19	PTD 15,841' (0')	Trip in with Bit No. 1. Ran cement bond log to 15,657'. Indicated top cement at 14,415' and cement at bottom at casing.
20	Drilling 15,941' (100')	Drilling with 22,000 # wt., 45 RPM, 1200 # pump. Mud weight 8.7, Viscosity 52, Waterloss 6.4, FC 2/32, pH 11.5. Reached 16,000' 6:22 p.m. 5/20/77.
21	Drilling 16,073' (132')	
22	Trip 16,154' (81')	
23	Drilling 16,200' (46')	Drilling with 22,000 # wt., 45 RPM, 1200 # pump. Mud weight 8.7, Viscosity 53, Waterloss 5.8, FC 2/32, pH 12.0.
24	Drilling 16,288' (88')	Drilling with 20,000 # wt., 45 RPM, 1200 # pump.
25	Drilling 16,353' (65')	
26	Drilling 16,370' (17')	Drilling with 15-20,000 # wt., 45 RPM, 1350 # pump. Mud weight 8.7, Viscosity 56, Waterloss 5.8, FC 2/32, pH 12.1.

CHRONOLOGICAL HISTORY  
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ENERGETICS, INC.  
WEBER COAL CO.

May 27	Trip 16,406' (36')	
28	Drilling 16,445' (39')	Drilling with 20,000 # wt., 42 RPM, 1375 # pump.
29	Drilling 16,504' (59')	
30	Drilling 16,523' (19')	Drilling with 15-20,000 # wt., 44 RPM, 1475 # pump. Mud weight 8.7, Viscosity 58, Waterloss 6.2, FC 2/32, pH 12.2.
31	Drilling 16,578' (55')	
June 1	Drilling 16,647' (69')	Drilling with 20,000 # wt., 44 RPM, 1375 # pump. Mud weight 8.8, Viscosity 56, Waterloss 6.0, FC 2/32, pH 12.1.
2	Drilling 16,717' (70')	
3	Trip 16,749' (32')	
4	Trip 16,774' (25')	
5	Drilling 16,800' (26')	Drilling with 20,000 # wt., 44 RPM, 1525 # pump. Mud weight 8.8, Viscosity 53, Waterloss 5.8, FC 2/32, pH 12.2.
6	Drilling 16,845' (45')	
7	Drilling 16,881' (36')	Drilling with 20-22,000 # wt., 45-50 RPM, 1450 # pump. Mud weight 8.8, Viscosity 55, Water- loss 6.0, FC 2/32, pH 12.1.
8	Drilling 16,906' (25')	
9	Drilling 16,975' (69')	
10	Drilling 17,050' (75')	Drilling with 20,000 # wt., 45 RPM, 1500 # pump. Mud weight 8.8, Viscosity 51, Waterloss 5.4, FC 2/32, pH 12.3.
11	Drilling 17,130' (80')	
12	Drilling 17,199' (69')	
13	Drilling 17,232' (33')	Drilling with 10-20,000 # wt., 45 RPM, 1525 # pump. Mud weight 8.7, Viscosity 54, Waterloss 6.0, FC 2/32, pH 12.1.

CHRONOLOGICAL HISTORY  
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ENERGETICS, INC.  
WEBER COAL CO.

June 14	PTD 17,301' (69')	Circulating for logs. Mud weight 8.8, Viscosity 57, Waterloss 6.0, FC 2/32, pH 12.2.
15	PTD 17,301' (0')	Going in hole. Ran DIL, BHC Sonic, CNL-Density, CDM by Schlumberger. Logger total depth 17,288'.
16	PTD 17,325' (24')	Preparing to set bridge plug.

BIT RECORD

NO.	SIZE	MAKE	TYPE	SERIAL NO.	DEPTH OUT	FOOTAGE	HOURS
1	12 1/4"	Retip	OSC3	LX512	509	409	18 1/2
2	12 1/4"	Retip	S33	4127	1,028	519	37
3	12 1/4"	RR	J22	JT445	1,711	683	58
4	12 1/4"	RR	J22	TL017	2,433	722	86 1/2
5	12 1/4"	Reed	S1G	225780	2,486	53	8 1/4
6	12 1/4"	Reed	FP52	735316	2,680	194	31 1/4
7	12 1/4"	Smith	F2	173DN	3,041	361	44 1/2
1	12 1/4"	Grant	H0	6296	906	806	40
2	12 1/4"	Security	S4T-J	658528	1,069	163	6 3/4
3	12 1/4"	Smith	DT-J	701BJ	2,035	966	59 3/4
4	12 1/4"	HTC	OSC1GJ	WN752	2,452	417	35 1/2
5	12 1/4"	Security	S4T-J	658528	2,532	80	11 1/4
6	12 1/4"	Smith	DT-J	611BR	2,861	329	53 1/4
7	12 1/4"	Security	M4N-J	674526	3,039	178	29 1/4
7	12 1/4"	Smith	F2	173DN	3,158	119	31
8	12 1/4"	Smith	DT-J	151DS	3,276	118	35 3/4
19	12 1/4"	Security	S33	584699	3,323	47	20
10	12 1/4"	Smith	F2	791BP	3,456	133	45
11	12 1/4"	Smith	DG-J	CZ770	3,484	28	14 1/2
17	12 1/4"	Smith	F2	173DN	3,662	178	41 3/4
12	12 1/4"	Smith	F2	923DK	4,321	659	115
13	12 1/4"	Smith	3-JS	589CW	4,778	457	85 1/4
14	12 1/4"	HTC	J22	VD181	4,999	221	28
15	12 1/4"	Smith	3-JS	453CW	5,067	68	16 1/4
16	12 1/4"	HTC	J22	SF628	5,514	447	87 3/4

BIT RECORD  
PAGE 2

NO.	SIZE	MAKE	TYPE	SERIAL NO.	DEPTH OUT	FOOTAGE	HOURS
17	12 1/4"	Reed	FP53	602128	5,964	450	96 1/2
18	12 1/4"	Smith	3JS	073DK	6,337	373	86 1/4
19	12 1/4"	Reed	FP52	736000	6,575	238	65 3/4
20	12 1/4"	Security	S84	552205	6,617	42	23 3/4
21	12 1/4"	Smith	DTJ	147DC	6,785	168	36 1/4
22	12 1/4"	HTC	J22	HE792	7,058	273	68 1/4
23	12 1/4"	Smith	F2	766EF	7,398	340	70 3/4
24	12 1/4"	Smith	2JS	755EN	7,876	478	101 3/4
25	12 1/4"	Reed	FP52	313690	8,007	131	40 3/4
26	12 1/4"	Smith	3JS	BB674	8,184	177	53
27	12 1/4"	Smith	V2HJ	304EP	8,207	23	14
28	12 1/4"	Smith	3JS	370EF	8,492	285	89
29	12 1/4"	HTC	J33	WV974	8,716	224	69 3/4
30	12 1/4"	Smith	3JS	WC947	8,894	178	44
31	12 1/4"	HTC	J33	TC871	8,955	61	14 1/2
32	12 1/4"	Smith	F3	649BX	9,391	436	78 3/4
33	12 1/4"	Reed	FP53	321518	9,473	82	Twist off.
34	12 1/4"	HTC	XDV	VK721	8,810	260	10 1/2
35	12 1/4"	Hycalog	Diamond	-----	8,508	24	11
36	12 1/4"	Security	H7SG	656158	8,515	7	4 1/2
37	12 1/4"	Security	S84	545989	8,551	36	23 3/4
38	12 1/4"	HTC	W7J	PB948	8,554	3	2 1/2
39	12 1/4"	Smith	3JS	736DK	8,598	44	21 1/2
40	12 1/4"	Smith	2JS	705EJ	8,631	33	14
41	12 1/4"	Smith	4JS	171DF	8,640	9	2 1/4
42	12 1/4"	Smith	4JS	163FF	8,655	15	7 1/4

BIT RECORD  
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NO.	SIZE	MAKE	TYPE	SERIAL NO.	DEPTH OUT	FOOTAGE	HOURS
43	12 1/4"	Smith	3JS	618FE	8,658	3	2
38	12 1/4"	HTC	W7J	PB948	8,664	6	7
44	12 1/4"	Smith	3JS	153FF	8,688	24	9 1/2
45	12 1/4"	Smith	3JS	695FA	8,862	174	70 3/4
46	12 1/4"	Smith	3JS	643DK	9,013	151	96 3/4
47	12 1/4"	HTC	J22	VD221	9,174	161	60 1/4
48	12 1/4"	Smith	3JS	067FH	9,525	351	96 1/4
49	12 1/4"	Smith	3JS	572FF	9,631	106	52
50	12 1/4"	Reed	S52	322480	9,653	22	23
51	12 1/4"	Smith	V2HJ	506EP	9,842	189	42 3/4
52	12 1/4"	Smith	DGJ	CZ600	10,000	158	42
53	12 1/4"	Reed	S13G	305580	10,125	125	84 1/4
54	12 1/4"	Smith	V2J	958EW	10,203	78	37 3/4
55	12 1/4"	Smith	V2HJ	268ER	10,282	79	79
56	12 1/4"	Smith	V2HJ	303EP	10,342	60	32
57	12 1/4"	HTC	OSC3J	AA174	10,474	132	47 3/4
58	12 1/4"	Smith	V2HJ	331EP	10,576	102	32 3/4
59	12 1/4"	Smith	V2J	956EW	10,662	86	30 1/4
1	8 1/2"	HTC	ODVJ	BS184	10,741	76	17 1/4
2	8 1/2"	HTC	J33	VP776	10,905	164	42 3/4
3	8 1/2"	HTC	ODVJ	HW774	11,007	102	24 1/2
4	8 1/2"	Smith	V2J	479AR	11,206	199	49
5	8 1/2"	Smith	T2HJ	LD636	11,435	229	43 3/4
6	8 1/2"	Smith	F3	025HF	11,521	86	11
7	8 1/2"	HTC	X55R	EV218	11,606	85	8
	6 3/4"	Christensen	MC-20	4557008	11,630	24	10 1/2

BIT RECORD  
PAGE 4

NO.	SIZE	MAKE	TYPE	SERIAL NO.	DEPTH OUT	FOOTAGE	HOURS
8	8 1/2"	Smith	F7	HB181	11,930	300	30
9	8 1/2"	Smith	F7	DD151	12,176	246	28 1/2
10	8 1/2"	HTC	J88	MD140	12,301	125	21 1/2
11	8 1/2"	HTC	J77	2X602	12,364	63	19 1/4
12	8 1/2"	Security	H100F	709250	12,496	132	34 1/4
13	8 1/2"	Security	H100F	709277	12,594	98	30 1/2
14	8 1/2"	Smith	9JS	788AZ	12,642	48	21 1/2
15	8 1/2"	Reed	FP64	226044	12,708	66	24 1/2
16	8 1/2"	HTC	X55R	EV251	12,782	74	31
17	8 1/2"	Security	H7SG	166834	12,902	120	41
18	8 1/2"	Reed	FP53	212956	13,042	140	41 1/4
19	8 1/2"	Security	H7SG	659755	13,058	16	7 1/2
20	8 1/2"	Security	M88	579081	13,116	58	22 1/4
21	8 1/2"	Reed	FP62	237522	13,149	33	15 1/2
22	8 1/2"	Security	H100F	597460	13,157	8	2 1/2
23	8 1/2"	Security	H100	696932	13,263	106	33 3/4
24	8 1/2"	Smith	9JS	071BC	13,333	60	32 3/4
25	8 1/2"	HTC	X55R	ET746	13,353	30	17
26	8 1/2"	HTC	J33	VT520	13,654	301	83 1/2
27	8 1/2"	HTC	J33	VP768	13,792	138	45 1/2
28	8 1/2"	HTC	J44	TT391	14,152	360	90 3/4
29	8 1/2"	HTC	J44	RG398	14,282	130	43
30	8 1/2"	STC	F-5	452ES	14,320	38	14
15	8 1/2"	Reed	FP64	226044	14,392	72	32 3/4
31	8 1/2"	Security	H-100F	709325	14,531	139	71
32	8 1/2"	HTC	J88	DC784	14,759	228	103 1/4
33	8 1/2"	HTC	J77	TR227	15,105	346	88



BIT RECORD  
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NO.	SIZE	MAKE	TYPE	SERIAL NO.	DEPTH OUT	FOOTAGE	HOURS
34	8 1/2"	STC	F5	238ET	15,453	348	111
35	8 1/2"	HTC	J44	VH852	15,841	388	90 1/2
1	6 1/2"	HTC	J33	BE574	16,154	313	61 1/2
2	6 1/2"	HTC	J44	VF466	16,356	202	59 3/4
3	6 1/2"	Reed	FP72	328731	16,406	50	25 3/4
4	6 1/2"	HTC	J33	CV465	16,516	110	44 1/4
5	6 1/2"	Smith	F5	114 FA	16,749	233	89 1/2
6	6 1/2"	HTC	J44	ZK223	16,882	133	71
7	6 1/2"	HTC	J33	BE575	17,217	335	109
8	6 1/2"	HTC	J33	BE704	17,325	108	Total Depth Log

DEVIATION RECORD

DEPTH	DEVIATION	DEPTH	DEVIATION
118	1°	1,897	3/4°
234	1 1/2°	1,991	1°
290	1°	2,085	1°
352	1°	2,180	1°
416	1°	2,274	1 1/4°
509	1°	2,369	1 1/2°
569	1°	2,432	1 3/4°
631	1/2°	2,486	1 3/4°
727	1°	2,553	1 1/2°
790	1°	2,616	1 1/2°
853	1°	2,680	1 1/4°
916	1°	2,748	1 1/2°
979	1°	2,810	2°
1,028	1 3/4°	2,842	1 3/4°
1,079	1°	2,873	1 1/4°
1,133	1°	2,936	2°
1,195	1 1/4°	2,967	1 3/4°
1,266	1°	3,041	2°
1,330	1°	3,095	2 1/4°
1,393	1°	3,127	2 1/4°
1,446	3/4°	3,158	2 1/2°
1,550	3/4°	3,182	2 1/4°
1,614	1°	3,214	2 1/4°-
1,667	1°	3,245	2 1/2°+
1,711	3/4°	3,277	2 1/2°
1,802	1/2°	3,310	2 1/2°
		3,323	2 1/4°

DEVIATION RECORD  
PAGE 2

DEPTH	DEVIATION	DEPTH	DEVIATION
3,373	2 1/4°	4,192	1 1/4°
3,404	2 3/4°	4,233	1 1/2°
3,436	2 3/4°	4,255	2°
3,456	2 1/2°	4,286	1 3/4°
3,484	2 1/4°	4,318	2 1/4°
3,531	1 3/4°	4,357	1 1/4°
3,562	1 1/2°	4,388	1 1/4°
3,593	1 1/4°	4,420	1 1/4°
3,635	1 3/4°+	4,451	1 1/4°
3,656	1 3/4°	4,514	1 1/4°
3,688	1 3/4°	4,576	1 1/4°
3,719	2 1/4°	4,639	2°
3,750	1°	4,671	1 1/2°+
3,782	1/2°	4,702	1 3/4°
3,814	1°	4,733	1 1/2°
3,845	1 3/4°	4,778	2°
3,876	1 1/4°	4,830	2 1/4°
3,908	1°	4,862	2 1/4°
3,939	1 1/4°	4,893	2°
3,972	1 1/4°	4,924	2 1/4°
4,003	1 1/4°	4,955	2°
4,034	2 3/4°	4,987	2°
4,066	3/4°	5,013	2 1/4°
4,097	1 1/2°	5,046	2°
4,129	1 1/4°	5,081	2 3/4°
4,160	1 1/2°	5,113	2 3/4°

DEVIATION RECORD  
PAGE 3

DEPTH	DEVIATION	DEPTH	DEVIATION
5,145	2°	6,114	3°
5,176	2 1/4°	6,146	3°
5,207	2°	6,177	3 1/4°
5,237	2°	6,209	3°
5,270	2 3/4°	6,241	2 1/2°
5,302	2°	6,272	1 1/2°
5,333	2 1/2°	6,304	3° TD
5,365	2°	6,335	3° TD
5,396	2°	6,365	3 1/4° WL
5,428	2°	6,365	3° TD
5,459	2 3/4°	6,397	3° TD
5,491	2 1/4°	6,429	3° TD
5,514	2 3/4°	6,459	3° TD
5,554	2 3/4°	6,491	3° TD
5,585	2 3/4°	6,522	3° TD
5,617	2 3/4°	6,554	3° TD
5,649	2 1/2°	6,575	3 1/2°
5,711	3°	6,579	3° TD
5,742	3 1/8°	6,610	3° TD
5,774	2 3/4°	6,617	3 1/2°
5,837	2 3/4°	6,642	3° TD
5,901	3 3/4°	6,674	3° TD
5,932	3°	6,705	3° TD
5,964	2 1/2°	6,737	3 3/4°
6,020	3°	6,785	3 3/4°
6,051	3°	6,863	3 1/4°
6,083	3°	6,888	3° TD

DEVIATION RECORD  
PAGE 4

DEPTH	DEVIATION	DEPTH	DEVIATION
6,927	3° TD	7,806	3°
6,958	3° TD	7,838	4°
6,958	3 1/4°	7,869	4 1/2°
6,990	3 1/2° TD	7,901	4 1/2°
7,021	3° TD	7,932	4 1/2°
7,053	3 1/2°	7,964	4 1/2°
7,091	3°	7,996	5°
7,116	3°	8,007	5°
7,147	3 1/2°	8,028	5°
7,148	3 1/2°	8,059	5°
7,240	3°	8,090	4 1/2°
7,272	2 1/2° TD	8,146	4 1/2°
7,304	3 1/2° TD	8,172	5°
7,334	3 1/2°	8,184	5 1/2° TD
7,398	3 1/2°	8,184	5 3/4°
7,430	3 1/2°	8,207	5 1/4°
7,462	3 1/2°	8,223	5°
7,493	3 1/2°	8,303	5°
7,524	3 1/4°+	8,349	5°
7,587	3 1/2°	8,381	5 1/2°
7,617	4°	8,412	5°
7,650	3 1/2°	8,444	5 1/2°
7,680	3 1/2°	8,476	5°
7,711	3 1/2°	8,492	5 3/4°
7,743	4° TD	8,569	5 1/2°
7,743	3 3/4°	8,600	5 1/2°
7,775	3°	8,632	5 1/2°

DEVIATION RECORD  
PAGE 5

DEPTH	DEVIATION	DEPTH	DEVIATION
8,644	6°	8,484	6 1/4°S 74°E
8,694	5 1/2°	8,486	8° S 76°E
8,716	5 1/2°	8,517	5° S 74°E
8,726	5 3/4°	8,536	4 3/4°S 70°E
8,758	6°	8,563	5° S 74°E
8,790	6 1/2° TD	8,595	5° S 77°E
8,820	5 3/4° WL	8,631	5 1/2°
8,852	5 1/2°	8,610	4 3/4°S 73°E
8,884	5 1/2°	8,719	4°
8,916	5 1/2°	8,751	4°
8,946	5 1/2°	8,770	4 3/4°
8,981	5 1/2°	8,812	4 1/2°
9,012	5 1/2°	8,844	4 3/4°S 74°E
9,043	6°	8,916	4 3/4°
9,073	5 1/2°	8,982	4 1/4°
9,105	6°	9,024	4°
9,136	6°	9,055	4 1/2°
9,128	6 1/2°	9,085	4 1/4°S 74°E
9,189	6 1/2°	9,145	4 1/4°
9,231	6°	9,230	3 3/4°
9,264	6 1/2°	9,293	4 1/4°
9,264	6° WL	9,360	4°
9,358	6 1/2°	9,468	4 1/4°
9,389	6°	9,525	4 1/2°
9,391	6°	9,554	4 1/2°
9,421	6°	9,604	5°
9,453	6°	9,647	4 3/4°

DEVIATION RECORD  
PAGE 6

DEPTH	DEVIATION	DEPTH	DEVIATION
9,713	5°	15,105	7°
9,783	5 1/2°	15,453	7°
9,842	5 3/4°	15,453	Misrun
9,917	6°	16,154	14°+
9,987	5 1/2°	16,420	18°
10,000	6°	16,516	22°
10,125	5 1/2°	16,749	46°
10,203	5°	16,732	28 1/2°
10,342	5 1/4°	16,882	22°
10,474	5°	16,950	33 1/2°
10,576	5 1/4°	17,217	33 1/2°
10,741	5 1/2°	17,301	34°
10,905	5 3/4°		
11,435	5°		
11,606	7°		
11,930	8 1/4°		
12,176	8 1/4°		
12,364	8°		
12,594	8°		
12,708	9°		
12,902	8 1/2°		
13,263	8°		
13,654	7°		
13,792	7 3/4°		
14,152	6 1/2°		
14,282	7°		

# FORMATION TOPS

<u>FORMATION</u>	<u>SAMPLE DEPTH</u>	<u>LOG TOP</u>	<u>DATUM</u>
Lower Oyster Ridge	Surface	-----	-----
Coalville	450'	-----	-----
Chalk Creek	700'	-----	-----
Spring Canyon	3,080'	-----	-----
Longwall	-----	3,203'	+ 2,799'
Aspen	-----	3,306'	+ 2,696'
Kelvin	3,530'	3,532'	+ 2,470'
Gannett	7,700'	-----	-----
Stump	-----	-----	-----
Preuss	-----	8,440'	- 2,438'
Preuss Evaporites	9,055'	9,064'	- 3,062'
<u>Plug Back To 8452'</u>			
Preuss Evaporites	9,070'	9,069'	- 3,067'
Base Evaporites	9,445'	9,438'	- 3,436'
Arapien	9,445'	9,438'	- 3,436'
Twin Creek Transition	10,450'	10,447'	- 4,445'
Twin Creek Limestone	10,580'	10,569'	- 4,567'
"Red Marker"	10,885'	10,891'	- 4,889'
"Oolitic Marker"	11,340'	11,344'	- 5,342'
Gypsum Springs	11,360'	11,368'	- 5,366'
Nugget	11,462'	11,463'	- 5,461'
Popo Agie	12,620'	12,626'	- 6,624'
Gartra	12,910'	12,908'	- 6,906'
Ankareh	13,250'	13,250'	- 7,248'
Thaynes	14,098'	14,087'	- 8,085'
Woodside	15,151'	15,148'	- 9,146'
Thaynes (Overturned)		15,541'	- 9,539'



FORMATION TOPS  
PAGE 2

<u>FORMATION</u>	<u>SAMPLE DEPTH</u>	<u>LOG TOP</u>	<u>DATUM</u>
Ankareh (Overturned)		16,588'	- 10,586'
Total Depth	17,325'	17,289'	-----

## SAMPLE DESCRIPTION

30 Foot Samples 0-3040'

10 Foot Samples 3040-17,325'

100-300'	Shale, gray-dark gray, moderately soft, silty, slightly sandy, micaceous.
300-450'	Shale, dark gray-black, moderately soft, silty, micaceous with stringers Siltstone, gray, firm, grading to Sandstone, gray, very fine grained, sub angular-sub rounded, salt and pepper, very silty, tite.
450-465'	As above with Sandstone, white, light gray, very fine-fine grain, sub angular-sub rounded, occasionally slight salt and pepper, quartzitic, moderately clay filling.
465-485'	Shale and Siltstone as above.
485-500'	Coal.
500-590'	Shale, dark gray-black, moderately soft, silty, occasionally slightly sandy, micaceous, with occasional stringers Siltstone, gray, firm, occasionally slightly salt and pepper.
590-660'	Shale and Siltstone as above occasionally grading to Sandstone, gray, very fine grain, sub angular-sub rounded, occasionally slight salt and pepper, silty, tite.
660-690'	Shale as above with occasional stringers Claystone, gray to gray-green, soft, gummy.
690-720'	Very poor samples - Lost circulation material.
720-810'	Samples as above, trace Shale, red to reddish brown, some gray to gray-green, moderately soft, sub waxy.
810-970'	Shale, varicolored, red, reddish brown, gray, gray-green, moderately soft, sub waxy with stringers Sandstone, light gray, very fine-fine grained, sub angular-sub rounded, quartzitic, firm, tite, occasional light greenish cast.
970-1100'	Shale, varicolored as above becoming predominately red to reddish brown with Shale, gray, gray-green and Sandstone as above.
1100-1140'	Shale, varicolored as above trace Shale, maroon, sub waxy.
1140-1330'	Shale, varicolored as above with numerous stringers Sandstone, light gray, very fine-fine grained, sub angular, firm, tite, occasional slight salt and pepper.
1330-1490'	As above with occasional stringers Sandstone, tan, very fine-fine grained, sub angular, firm, quartzitic.

SAMPLE DESCRIPTION  
PAGE 2

1490-1700'	Shale and Sandstone as above.
1700-1770'	As above with Siltstone, maroon-red, light gray, firm.
1770-1830'	As above with Sandstone, light gray, very fine-fine grain, occasionally medium grained, sub angular, firm, tite, slight salt and pepper, pyritic in part.
1830-2200'	Shale, varicolored as above with Sandstone, light gray, very fine-fine grain, sub angular, moderately firm, tite, slight salt and pepper.
2200-2260'	No samples. LCM. Note: Samples 2260-2600' very poor due to LCM. Interpretation limited to very minute screenings.
2260-2650'	Shale, varicolored, red to reddish brown, gray, gray-green, moderately soft, sub waxy with stringers Sandstone, light gray, very fine-fine grain, sub angular, firm to moderately soft, slight salt and pepper, tite. Occasionally slight pyritic in part.
2650-2750'	Shale, varicolored, predominately light gray to gray-green, moderately soft, sub waxy with occasional stringers Siltstone, gray, salt and pepper, firm.
2750-2800'	Shale as above with Sandstone, gray-dark gray, very fine grain, sub angular, slight salt and pepper, firm, tite, silty.
2800-2820'	Shale as above with some Shale dark gray-green, sub waxy, trace Shale, dark gray-black, silty, carbonaceous. (Cavings)
2820-2890'	Shale, light gray to light gray-green, moderately soft, sub waxy, with stringers Sandstone, light gray-tan, very fine grain, sub angular, occasional slight salt and pepper, firm, tite, trace Shale, dark gray-black, silty, carbonaceous as above.
2890-3040'	Shale as above, with larger percentage Shale, dark gray-black, silty, carbonaceous.
3040-3070'	Shale, gray-dark gray, moderately soft, slight sub waxy with Shale, dark gray-black, carbonaceous.
3070-3080'	Coal.
3080-3110'	Shale, dark gray-black to brownish black, moderately firm, carbonaceous, silty.
3110-3180'	As above with Sandstone, gray-light gray, very fine-fine grain, occasional medium grained, sub angular-sub rounded, occasional rounded, moderately soft, salt and pepper, tite, clay filled.
3180-3240'	As above with stringers Coal.

SAMPLE DESCRIPTION  
PAGE 3

3240-3280' Very poor samples. LCM.

3280-3300' Sandstone, light gray, very fine grained, sub-angular-sub rounded, moderately firm, very slight salt and pepper, with thin black, carbonaceous partings.

3300-3350' Shale, dark gray-brownish black, firm, silty, sandy grading to Siltstone, hard, tite.

3350-3370' Shale as above with stringers Limestone, gray, firm, shaly.

3370-3390' As above with Sandstone, light gray, very fine grain, sub angular-sub rounded, quartzitic, firm, tite, slightly carbonaceous.

3390-3490' Shale, light-dark gray, dark gray, silty, light gray, sub waxy, moderately soft with stringers Coal and Sandstone, gray, very fine grain, sub angular-sub rounded, firm, tite.

3490-3500' Shale as above with Shale, light gray, to gray-green, sub waxy.

3500-3520' Shale as above with trace Ammonite fragments.

3520-3530' Sandstone, white, very fine-fine grained, sub angular-sub rounded, firm, tite.

3530-3540' As above with trace Shale, reddish brown-maroon, soft, sub waxy, to slightly silty.

3540-3550' Shale, light gray to gray-green, sub waxy, with Shale, red-brown, maroon, sub waxy to slightly silty.

3550-3560' Shale, tan-brown, silty to sub waxy, with stringers Siltstone, tan, firm grading to Sandstone, tan-brown, very fine grain, sub angular-sub rounded, hard, tite.

3560-3570' Shale, light gray to gray-green, Shale, red-brown as above.

3570-3600' Shale, varicolored, predominately red brown-tan, some maroon, silty, sandy grading to Siltstone and Sandstone. Some Shale, gray-green, sub waxy.

3600-3610' Shale, tan-brown, silty to sub waxy with Siltstone and Sandstone, tan-brown, very fine grain, sub angular-sub rounded, firm, tite, trace Sandstone, white, very fine-fine grained, occasional medium grained, sub angular-rounded, firm, tite.

3610-3690' Shale, varicolored, red-brown, gray, gray-green, lavender, with stringers Sandstone, white-light gray, very fine-fine grained, sub angular-sub rounded, firm, tite.

3690-3750' Shale, predominately gray-medium gray, moderately firm, slightly sub waxy, to slightly silty, some stringers Sandstone, gray, very fine-fine grained, sub angular-sub rounded, firm, tite.

SAMPLE DESCRIPTION  
PAGE 4

3750-3790'	Sandstone, tan, very fine-fine grained, sub angular-sub rounded, firm, tite, silty grading to Siltstone, hard, tite.
3790-3830'	As above with Shale, red brown, silty and gray-green, sub waxy.
3830-3890'	Shale, varicolored as above, red brown, silty, light gray-green, sub waxy, some maroon, soft.
3890-3930'	Shale, as above predominately reddish brown, silty, firm with Sandstone, gray, very fine-fine grained, occasional medium grained, sub angular-sub rounded, glassy, quartzitic, firm, tite.
3930-4000'	Shale, varicolored, gray, gray-green, maroon, sub waxy and Shale, reddish-brown, silty, and Shale, salmon, silty to sub waxy with stringers Siltstone, reddish-brown, firm.
4000-4030'	Shale as above predominately light gray, soft, sub waxy, with Sandstone as above.
4030-4060'	Shale as above predominately reddish-brown, silty grading to Siltstone.
4060-4080'	Sandstone, gray-tan, very fine grained, sub angular-sub rounded, quartzitic, firm, tite, silty grading to Siltstone, firm.
4080-4210'	Shale, varicolored as above with stringers Siltstone gray to reddish brown, firm.
4210-4250'	Shale as above, slightly more reddish-brown in color.
4250-4260'	Sandstone, gray-tan, very fine grained, sub angular-sub rounded, quartzitic, firm, tite, silty, grading to Siltstone.
4260-4290'	Shale, varicolored as above.
4290-4360'	Shale as above becoming more reddish-brown, firm, silty, grading to Siltstone.
4360-4370'	As above with Sandstone, gray-tan, very fine grain, sub angular-sub rounded, firm, quartzitic, tite, silty, grading to Siltstone.
4370-4400'	Shale varicolored, predominately reddish-brown, firm, silty.
4400-4490'	Shale as above with Sandstone as above.
4490-4530'	Shale as above predominately reddish-brown, firm, silty, grading to Siltstone, firm, Sandstone, tan, very fine grained, sub angular-sub rounded, firm, tite.
4530-4560'	Sandstone, tan-orange, very fine grained, sub angular-sub rounded, quartzitic, moderately soft, friable, becoming slightly more medium grained at base.

SAMPLE DESCRIPTION  
PAGE 5

4560-4830' Shale, varicolored, gray, gray-green, reddish-brown, some red-green mottled, sub waxy with stringers Siltstone, gray-tan, firm, Sandstone, gray-tan, very fine grained, sub angular-sub rounded, firm, tite.

4830-4860' Shale as above becoming predominately reddish-brown.

4860-4930' As above becoming predominately light gray, stringers Siltstone, Sandstone, gray-tan, very fine grained, sub angular-sub rounded, quartzitic, firm, tite.

4930-4980' Shale as above becoming predominately reddish-brown.

4980-5000' As above with Sandstone, gray, very fine-fine grained, sub angular-sub rounded, slight salt and pepper, firm, tite.

5000-5030' Very poor samples. Hole in pipe.

5030-5130' Shale, varicolored, gray, gray-green, reddish-brown, moderately firm, sub waxy to slightly silty, occasional stringers Siltstone, gray, firm.

5130-5470' Shale, varicolored, as above, red-brown 60%, gray, gray-green 40%, sub waxy, occasionally slightly silty with stringers Siltstone, gray-tan, firm and Sandstone, gray-tan, very fine grained, sub angular-sub rounded, quartzitic, firm, tite, some pine mineral accessories.

5470-5490' As above with Sandstone, gray, very fine-fine grained, sub angular-sub rounded, slightly salt and pepper, firm, tite, glassy.

5490-5550' Shale, varicolored, predominately light gray, sub waxy with Shale, red-brown, occasional stringers Siltstone, reddish-brown, firm; Limestone, gray-tan, dense, firm.

5550-5600' Shale as above predominately reddish-brown, sub waxy, slightly silty.

5600-5610' Sandstone, light gray, very fine-medium grained, occasional coarse grained, sub angular-rounded, salt and pepper, firm, tite.

5610-5630' Shale, reddish-brown, gray as above.

5630-5640' Sandstone as above becoming more very fine-medium grained.

5640-5650' Shale as above.

5650-5670' Sandstone, as above becoming very fine-coarse grained, sub angular-rounded, salt and pepper, firm, tite.

5670-5880' Shale, varicolored, predominately light gray-gray, sub waxy, firm, with streaks Shale, reddish-brown, sub waxy, slightly silty, stringers Limestone, gray-tan, dense, firm.

SAMPLE DESCRIPTION  
PAGE 6

5880-5950' Shale as above with Sandstone, gray, very fine-fine grained, occasionally medium grained, sub angular-sub rounded, slight salt and pepper, hard, tite.

5950-6020' Shale as above predominately gray-lavender, maroon with streaks reddish-brown, sub waxy, brittle.

6020-6050' Sandstone, gray, very fine-fine grained, occasionally medium-coarse grained, sub angular-sub rounded, slight salt and pepper, hard, tite, some sub angular-angular quartzitic and chert fragments.

6050-6140' Shale, varicolored predominately gray as above.

6140-6190' Shale, as above becoming more reddish-brown, sub waxy, slightly silty with stringers Siltstone, reddish-brown, firm and Sandstone, salmon, very fine-fine grained, sub angular-sub rounded, quartzitic, firm, tite.

6190-6220' Sandstone, gray, very fine-medium grained, sub angular-rounded, slight salt and pepper, poorly sorted, grading to Sandstone, gray, very fine-fine grained, sub angular-sub rounded, quartzitic, firm, tite.

6220-6300' Shale, varicolored, predominately reddish-brown, with streaks gray, lavender, sub waxy.

6300-6400' Shale, as above becoming predominately reddish-brown, streaks gray, sub waxy.

6400-6420' As above with Sandstone, gray-tan, very fine-fine grained, sub angular-sub rounded, quartzitic, firm, tite.

6420-6540' Shale, varicolored, predominately reddish-brown, slightly silty, to sub waxy, firm, some gray, sub waxy.

6540-6560' Sandstone, gray, very fine-fine grained, sub angular-sub rounded, quartzitic, firm, tite, some porosity and permeability, some friable

6560-6900' Shale, varicolored as above predominately reddish-brown, slightly silty to sub waxy, streaks gray, maroon, lavender, Shale, gray and tan Limestone.

6900-6910' As above with traces Sandstone, white, very fine-coarse grained, sub angular-sub rounded, firm, tite.

6910-7090' Shale, varicolored, predominately red to reddish-brown, firm, sub waxy to slightly silty with stringers Limestone, gray-tan-pink, firm, dense.

7090-7130' As above with stringers Sandstone, gray, very fine-fine grained, sub angular-sub rounded, slight salt and pepper, firm, tite.

SAMPLE DESCRIPTION  
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- 7130-7220' Shale, gray to gray-green, moderately firm, sub waxy with stringers Limestone, gray-tan-brown, firm, dense to slightly micro crystalline.
- 7220-7230' Sandstone, white-tan, very fine-fine grained, sub angular-sub rounded, quartzitic, moderately firm, tite.
- 7230-7540' Shale, varicolored, predominately red to reddish-brown, silty, occasional grading to Siltstone, reddish-brown, firm, stringers Sandstone, white-tan, very fine-fine grained, sub angular-sub rounded, quartzitic, firm, tite, occasional streaks porosity and permeability.
- 7540-7570' Sandstone, white, very fine-fine grained, occasionally medium grained, sub angular-sub rounded, occasionally rounded, quartzitic, firm, tite.
- 7570-7630' Shale as above.
- 7630-7650' As above with Sandstone, white, very fine grained, sub angular-sub rounded, quartzitic, firm, tite.
- 7650-7670' Shale as above.
- 7670-7700' Sandstone, white, very fine-medium grained, sub angular-sub rounded, slight salt and pepper, firm, tite.
- 7700-7800' Shale, brick red, moderately firm, silty to slightly sub waxy with stringers Sandstone, red, very fine grained, sub angular-sub rounded, quartzitic, moderately firm, tite.
- 7800-7860' Shale, varicolored with some Shale, brown, firm, silty.
- 7860-7870' No sample.
- 7870-7910' Very poor samples, changing over mud system after trip.
- 7910-8040' Shale, as above with increase in Shale, tan-brown, sub waxy, silty, grading to Siltstone; Sandstone, tan-brown, very fine-fine grained, sub angular-sub rounded, firm, tite.
- 8040-8050' As above with Sandstone, tan-brown, very fine-medium grained, sub angular-sub rounded, firm, tite.
- 8050-8260' Shale, varicolored in part, predominately tan-brown as above with stringers Siltstone, tan-brown, firm, grading to Sandstone, tan-brown, very fine grained, sub angular-sub rounded, quartzitic, firm, tite.
- 8260-8280' No sample.
- 8280-8380' Shale, Siltstone and Sandstone as above.



SAMPLE DESCRIPTION  
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8380-8510' Generally very poor samples. Probable Shale, light-medium brown, sub waxy to silty, some Shale, reddish-brown, silty, with stringers Siltstone as above.

8510-8540' As above with Sandstone, tan-brown, very fine-fine grained, sub angular-sub rounded, occasional slight salt and pepper, occasional slight glauconite, firm, tite.

8540-8640' Shale, Siltstone, tan-brown, as above.

8640-8670' No sample or very poor sample.

8670-9010' Shale, varicolored in part, predominately light-dark brown, silty, firm, with stringers Siltstone, light tan-brown, firm.

9010-9020' As above with trace Limestone, brown, dense, moderately firm.

9020-9030' Shale and Sandstone as above.

9030-9300' Samples Shale and Siltstone as above. Drilling time indicates probable salt section.

9300-9473' As above to Salt crystals in samples. Possible stringers clastic as above.

9473- Fish cemented in hole.

PLUG BACK TO 8452'

8452-8484' Cement.

8484-8560' Very poor samples.

8560-9040' Shale, light-medium grown, moderately firm, silty, occasionally grading to Siltstone, brown, slight calcareous, occasional thin interbeds Sandstone, tan-brown, very fine grained, sub angular-sub rounded, moderately firm, tite.

9040-9055' As above. (Probable salt from drilling time)

9055-9065' Shale; Siltstone as above.

9065-9110' Probable Salt. Occasional crystals Salt in samples, section interpreted from drilling time.

9110-9180' Shale; Siltstone, brown-red with interbedded Salt.

9180-9440' Salt with few interbeds Shale and Siltstone, red-brown, firm.

9440-9460' No sample.

SAMPLE DESCRIPTION  
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9460-9550'	Shale, light-medium gray, moderately firm, slightly silty to sub waxy, slightly calcareous, with Shale, red brown, silty, firm.
9550-9660'	Shale, as above with stringers Claystone, light gray, soft , occasional stringers Siltstone, light gray, firm, tite.
9660-9690'	Very poor samples. LCM
9690-9890'	Shale, light-medium gray, soft, calcareous with stringers Claystone as above.
9890-9900'	No sample.
9900-10,000'	Shale as above becoming slightly darker, more medium gray, calcareous with occasional stringers Siltstone as above.
10,000-10,020'	No sample.
10,020-10,120'	Shale, dark gray, calcareous, moderately soft.
10,120-10,140'	No sample.
10,140-10,210'	Shale, dark gray as above with Siltstone, light gray, moderately firm, calcareous.
10,210-10,450'	Shale, medium gray, occasional dark gray, moderately soft, calcareous, slight fissile with occasional stringers Claystone, light gray, soft, and Siltstone, light gray, firm, calcareous.
10,450-10,585'	Shale, gray-dark gray, occasional brownish gray, slightly firmer than above, much more limy, brittle, grading to very shaly Limestone.
10,585-10,640'	As above with Limestone, gray-tan, occasional gray-brown, hard, dense, occasional calcite seams on micro fractured surface.
10,640-10,665'	Limestone, gray-tan, occasionally brown, hard, dense with occasional stringers Limestone, gray, moderately firm, dense, argillaceous.
10,665-10,790'	Limestone, gray to gray-brown, some brown, firm, dense, trace calcite on micro fracture surfaces. Some interbeds Limestone, gray, moderately soft, argillaceous.
10,790-10,800'	As above with trace oolites in gray-gray brown Limestone.
10,800-10,810'	As above slightly more oolites, trace Limestone, gray, soft, very argillaceous.
10,810-10,820'	Limestone, light-medium gray, very soft to firm, very argillaceous, grading to very limy Siltstone. Some stringers Shale, light gray, very soft, calcareous.
10,820-10,830'	Shale, medium-dark gray, firm, limy, with Limestone, medium-dark gray, to gray-tan, firm, dense.

SAMPLE DESCRIPTION  
PAGE 10

- 10,830-10,860' Limestone, gray-tan, dense, firm, trace calcite seams on micro fracture surfaces.
- 10,860-10,870' Shale, dark gray to gray-brown, firm, limy with Limestone as above. (very poor sample) Abundant metal shavings (hard band) trace sub angular-sub rounded, quartz fragments, trace Siltstone, red to red-brown.
- 10,870-10,905' Shale, salmon to pale orange red, very soft, gypsiferous. Some free white crystalline anhydrite and white fluffy anhydrite.
- 10,905-10,910' Very poor samples.
- 10,910-10,920' Shale, red to red brown, silty, calcareous grading to Siltstone with Limestone, gray, firm, dense.
- 10,920-10,930' Siltstone, light gray, moderately soft, non calcareous to slightly calcareous with Limestone, light-medium gray, moderately soft, dense, argillaceous.
- 10,930-10,940' As above with Limestone, gray-tan, firm, dense with Shale, light-medium gray, soft, calcareous.
- 10,940-10,950' Limestone, light-medium gray, moderately firm, dense; Limestone, light gray, soft, argillaceous with stringers Shale, light-medium gray, soft, calcareous.
- 10,950-10,960' Shale, gray-dark gray, firm, calcareous; Shale, reddish-brown, silty with Limestone, medium-dark gray, firm, dense.
- 10,960-10,980' As above with Limestone, medium gray, moderately firm, argillaceous, oolitic, Limestone, dark gray, dense, firm, oolitic.
- 10,980-10,990' Limestone, light-medium gray, moderately soft, argillaceous, oolitic, with Limestone, dark gray, dense, abundant white anhydrite.
- 10,990-11,000' Siltstone, gray, firm, calcareous with Limestone, gray, firm, dense to micro crystalline; Shale, dark gray, firm, calcareous.
- 11,000-11,120' Shale, dark gray to brownish black, firm, brittle, calcareous with stringers Limestone, dark gray, firm, dense.
- 11,120-11,200' Shale and Limestone as above with abundant calcite.
- 11,200-11,210' No sample.
- 11,210-11,220' Logged after trip. Very poor sample.
- 11,220-11,250' Limestone, brown, moderately firm, dense, argillaceous in part, platy. Abundant white calcite.

SAMPLE DESCRIPTION  
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- 11,250-11,280' Shale, medium-dark gray, moderately soft, calcareous with some Shale, red, firm, silty, some stringers Limestone as above.
- 11,280-11,290' Limestone, brown, moderately firm, dense, platey with Limestone, tan-brown, blotchy, dense to micro crystalline, moderately firm, argillaceous, abundant white calcite.
- 11,290-11,340' Limestone, as above, with Shale, dark gray-brown, firm, platey, limy, grading to Limestone. Abundant white calcite.
- 11,340-11,360' Limestone, tan-brown, moderately soft, dense to slightly micro crystalline, argillaceous, very oolitic.
- 11,360-11,370' Limestone, light tan, moderately firm, dense, slightly dolomitic with Shale, red to reddish brown, moderately soft, silty in part, very anhydritic in part. Some Shale, pale green, soft, sub waxy.
- 11,370-11,410' Shale, orange-red, moderately soft, anhydritic with few interbeds Shale, pale green, as above, abundant free anhydrite.
- 11,410-11,440' Shale and anhydrite as above with trace chert.
- 11,440-11,460' Shale, medium-dark gray, calcareous, firm with stringers Limestone, medium-dark gray, dense to micro-crystalline, firm, argillaceous. Trace dead oil stain - No fluorescence or cut.
- 11,460-11,540' Sandstone, white, very fine-fine grained, occasionally medium grained, sub angular-rounded, moderately soft, friable, tite, with anhydrite cement. No stain or fluorescence.
- 11,540-11,606' Sandstone, white, as above, fairly poorly sorted, slightly less heavily cemented. No stain or fluorescence.
- 11,606-11,630' Core No. 1 (See Core Description)
- 11,630-11,680' Sandstone, as above in Core No. 1. No apparent shows.
- 11,680-11,840' Sandstone, white, very fine grained, occasional fine grained, sub angular-sub rounded, quartzitic, moderately firm, some porosity, moderately tite. No stain or fluorescence.
- 11,840-11,980' Sandstone as above becoming slightly more predominately very fine-fine grained.
- 11,980-12,290' Sandstone, white, predominately very fine grained, with streaks fine grained, sub angular-sub rounded, quartzitic, moderately soft-firm, some porosity, moderate permeability, some fine pyrite. No stain or fluorescence.
- 12,290-12,320' Sandstone, as above with few Shale partings, medium-dark red, firm, sub waxy.

SAMPLE DESCRIPTION  
PAGE 12

12,320-12,490'	Sandstone, as above with Sandstone, tan-pink, very fine-fine grained, sub angular-sub rounded, moderately firm, tite, quartzitic.
12,490-12,510'	Sandstone as above becoming more red in color.
12,510-12,600	Sandstone, white, very fine-fine grained, sub angular-sub rounded, quartzitic, hard, tite, glassy in part.
12,600-12,620'	As above with Shale, dark red, firm, sub waxy.
12,620-12,690'	Shale, red-salmon, moderately firm, sub waxy to slightly silty, some shale, pale green, sub waxy.
12,690-12,700'	As above with chert.
12,700-12,800'	Shale, red brown to brick red, moderately firm, slightly silty to sub waxy with stringers Shale, pale green, sub waxy and Shale, gray-green to red-green mottled.
12,800-12,870'	Shale, as above predominately red-brown to brick red as above.
12,870-12,910'	Shale as above with stringers Limestone, tan, dense, firm.
12,910-12,950'	Shale as above with Sandstone, white, very fine grained, sub angular-sub rounded, moderately firm, tite with Shale, gray, gray-green, moderately firm, sub waxy.
12,950-12,990'	As above with Sandstone becoming more very fine-fine grained, tan-pink, moderately soft, traces conglomeratic Sandstone.
12,990-13,010'	Shale, red brown to brick red, moderately soft, silty to sub waxy in part.
13,010-13,050'	Sandstone, white, very fine-coarse grained, conglomeratic, sub angular-sub rounded, occasionally rounded, very hard, tite, with streaks Shale, red and gray as above.
13,050-13,070'	Shale, red brown, brick red and gray as above.
13,070-13,100'	Sandstone, pink-red, very fine-fine grained, sub angular-sub rounded, hard, tite, glassy with stringers Shale, red and gray as above.
13,100-13,170'	Very poor sample, Shale, as above with stringers Sandstone, white, coarse grained, conglomeratic, hard, tite; Sandstone, white, very fine-medium grained, sub angular-sub rounded, poorly sorted, hard, tite, trace quartz fragments.
13,170-13,200'	Shale, red brown, silty, moderately firm, with streaks Shale, gray-lavender, moderately soft, sub waxy.

SAMPLE DESCRIPTION  
PAGE 13

- 13,200-13,250' As above with Sandstone, white-pink, very fine-fine grained, occasionally medium grained, sub angular-sub rounded, firm, tite, glassy with Siltstone, red, trashy.
- 13,250-13,360' Shale, varicolored, predominately red to reddish-brown, silty in part, calcareous, with stringers Shale, gray, gray-green, lavender, moderately, firm, sub waxy.
- 13,360-13,720' Shale, red to red brown, moderately firm, silty to sub waxy in part, with numerous interbeds Siltstone, red-brown, moderately firm, slightly calcareous, slightly sandy.
- 13,720-13,740' As above with Siltstone grading to Sandstone, tan-red, very fine-fine grained, sub angular-sub rounded, hard, tite, glassy.
- 13,740-13,820' Shale and Siltstone as above.
- 13,820-14,090' As above with more frequent stringers Siltstone, red-brown, moderately firm, slightly calcareous, sandy, occasional grading to thin beds Sandstone, red, very fine grained, sub angular-sub rounded, hard, tite, shaly, silty.
- 14,090-14,100' As above with Siltstone, tan-pink, moderately firm.
- 14,100-14,110' As above with Shale, light-medium gray, moderately firm, slightly silty to sub waxy, slightly dolomite with dolomite, light-medium gray, moderately firm, dense, slightly sandy.
- 14,110-14,120' Shale, Siltstone, red as above. (poor sample)
- 14,120-14,360' Dolomite, light-medium gray, moderately firm, dense to slightly micro crystalline, slightly sandy, tite with stringers Shale, light-medium gray, moderately firm, slightly silty to sub waxy, slightly dolomitic.
- 14,360-14,400' Dolomite, medium gray, firm, micro crystalline-sucrosic, pyritic with occasional stringers Shale, as above.
- 14,400-14,500' Dolomite as above, with dolomite, light-medium gray, moderately firm, micro-very fine crystalline, with stringers Shale, gray-red brown, moderately firm, slightly dolomite.
- 14,500-14,510' Dolomite, light gray to light brown, micro crystalline, dense, hard 85% with Shale, gray to dark gray, firm 15% with trace Sandstone, white, fine grained, red, no fluorescence with traces Sandstone, medium brown, fine grained, red, no fluorescence,
- 14,510-14,520' Sample as above with Shale, red, dolomite, firm with Shale, brown, firm.

SAMPLE DESCRIPTION  
PAGE 14

14,520-14,530'	Dolomite, light gray, light brown, micro crystalline, dense, hard 55% with Shale, red, maroon, brown, gray, hard 45%.
14,530-14,600'	Dolomite, light gray, micro crystalline, dense, hard 85% with Shale, as above 15% with trace calcite, white.
14,600-14,610'	Dolomite, gray to gray brown, silty, micro crystalline, hard 85% with Shale, dark red, firm 15%.
14,610-14,630'	Dolomite, light gray to gray to gray brown, micro crystalline, silty, hard 90% with Shale dark red, firm 10%.
14,630-14,650'	Dolomite, light gray to gray, micro crystalline, silty, hard 95% with Shale, dark red, firm 5%.
14,650-14,690'	Dolomite as above 95% with Shale grading to Siltstone, dark red, dolomite 5%.
14,690-14,730'	Dolomite as above 90% with calcite, white 5% with Shale, dark red, 5%.
14,730-14,740'	Dolomite, light gray, micro crystalline, hard 95% with Calcite, white 5% with Shale, dark red, firm.
14,740-14,770'	Dolomite, as above 50% with Dolomite, black, platy 45% with Shale dark red, silty 5%.
14,770-14,800'	Limestone, white to light gray, mottled, micro crystalline, firm 55% with Dolomite, gray to dark gray, firm, platy 40% with Shale, red, silty 5% with trace Clay, Shale pale-green, firm.
14,800-14,840'	Limestone, as above 90% with Dolomite as above 10% with trace calcite, white with trace Shale, red, silty.
14,840-14,860'	Sample as above with trace Shale, black, dolomite, silty, firm.
14,860-14,880'	Limestone, white to light gray, mottle, micro crystalline, firm 70% with dolomite gray to dark gray 30% with trace Shale, red, silty with trace Siltstone, red dolomitic.
14,880-14,900'	Limestone, as above 50% with dolomitic, dark gray to black, silty, firm, 50% with show Siltstone, red, as above.
14,900-14,940'	Dolomite as above 60% with Limestone as above 40% with show Calcite, white.
14,940-14,980'	Dolomite as above 65% with Limestone as above 35% with show Calcite, white, with show Siltstone, dark red, slight dolomitic.
14,980-15,000'	Dolomitic as above 75% with Limestone as above 25% with calcite as above with trace Siltstone as above.

SAMPLE DESCRIPTION  
PAGE 15

15,000-15,020'	Dolomitic as above 70% with Limestone as above 20% with Siltstone as above 10% with traces calcite, white, with traces Shale, pale-green, firm.
15,020-15,040'	Dolomitic, dark gray to black, silty, firm 55% with Limestone, white to light gray, mottled, micro crystalline, firm 35% with Siltstone, dark red, slight dolomitic with traces calcite, white.
15,040-15,050'	Limestone, as above 45% with Dolomite as above 45% with Siltstone as above 10% with traces calcite as above.
15,050-15,060'	Dolomite, as above 50% with Limestone, as above 45% with Siltstone as above 5% with traces calcite as above.
15,060-15,120'	Dolomite, gray to dark gray, slightly silty, hard 55% with Limestone, light gray to gray, mottled in part, micro crystalline, hard 40% with Siltstone, dark red to maroon, hard 5% with traces calcite, creme with traces Shale, pale-green, firm.
15,120-15,130'	Dolomite, gray to dark gray, slightly silty, hard, 50% with Limestone, light gray to gray, mottled in part, micro crystalline, hard 35% with Siltstone, dark red to maroon, hard 5% with Shale dark gray to black, dolomitic, slightly silty 5% with calcite, white to creme 5%.
15,130-15,150'	Dolomite as above 50% with Limestone as above 30% with Marlstone, tan exterior, white to pale green interior, dolomitic, very soft 20%.
15,150-15,160'	Limestone, as above 30% with Dolomite as above 30% with Siltstone red to dark red, firm 25% with Shale, pale-green, sub waxy, slightly dolomitic, firm 10% with Marlstone as above 5% with shows anhydrite.
15,160-15,170'	Shale, brownish red, dolomitic, firm 45% with Siltstone, dark red, slightly dolomitic, firm 30% with Dolomite as above 15% with Shale, pale green, as above 5% with Marlstone, as above 5% with traces anhydrite.
15,170-15,180'	Shale, brownish red, as above 40% with Siltstone, dark red, as above 40% with Marlstone as above 10% with Dolomite as above 5% with Shale, pale-green, as above 5% with show anhydrite.
15,180-15,200'	Shale, brownish red, as above 45% with Siltstone, dark red, as above 45% with Marlstone as above 5% with 5% Dolomite, Shale, pale-green, as above with traces anhydrite.
15,200-15,220'	Shale, brownish red as above 40% with Siltstone, dark red as above 40% with Marlstone as above 15% with Shale, pale-green as above 5% with Shale, black, silty, slightly pyritic, slightly dolomitic with traces anhydrite.



SAMPLE DESCRIPTION  
PAGE 16

- 15,220-15,240' Siltstone, dark red, slightly dolomitic, firm 30% with Marlstone, tan exterior, white interior, dolomitic, very soft 30% with Shale brownish-red, dolomitic, firm, 20% with Shale, pale-green, sub waxy, slightly dolomitic, firm 20% with show anhydrite.
- 15,240-15,260' Marlstone, as above 50% with Shale, brownish-red as above 15% with Siltstone, dark red as above 15% with Shale, pale-green as above 10% with Shale, gray to gray-black to black, firm 10% with show anhydrite.
- 15,260-15,290' Marlstone, as above 70% with Shale gray to greenish-black, very silty, hard 20% with Shale and Siltstone, red as above 20% with show anhydrite.
- 15,290-15,320' Marlstone, tan exterior, white to pale green interior, dolomitic 35% with Shale, brownish-red, dolomitic, silty, firm 30% with Siltstone, dark red, slightly dolomitic, firm 30% with Shale, gray to gray-green, slightly dolomitic, firm 5% with traces anhydrite.
- 15,320-15,370' Siltstone, dark red to maroon, firm, sandy, slightly dolomitic 50% with Marlstone as above 25% with Shale, pale-green, sub waxy, slightly silty 20% with Shale, gray, slightly silty, slightly dolomitic, firm 5% with traces anhydrite.
- 15,370-15,390' Siltstone, dark red, slightly dolomitic 40% with Siltstone, reddish-brown, very sandy 30% with Marlstone as above 15% with Shale, pale-green, as above 15% with traces Shale, gray as above.
- 15,390-15,400' Siltstone, bright red as above 50% with Siltstone, dark red as above 40% with Marlstone as above 10% with traces Shale, pale-green, as above with traces anhydrite.
- 15,400-15,420' Siltstone, brownish red, as above 50% with Siltstone, dark red, 45% with Marlstone as above 5% with traces Shale, pale-green as above.
- 15,420-15,440' Siltstone, dark red as above 55% with Siltstone, brownish-red, as above 45% with traces Marlstone with traces Shale, pale-green, as above.
- 15,440-15,480' Siltstone, brownish-red as above 50% with Siltstone, dark red as above 45% with Shale, pale-green as above 5% with traces anhydrite.
- 15,480-15,520' Siltstone, brownish-red, as above 50% with Siltstone, dark red as above 45% with Shale, gray, very slight dolomitic, silty, moderately firm 5% with show Shale, pale-green as above with traces anhydrite with traces Marlstone.

SAMPLE DESCRIPTION  
PAGE 17

- 15,520-15,530' Siltstone, brownish-red, sandy, dolomitic, firm 45% with Siltstone, dark red, slightly sandy, slightly dolomitic, firm 40% with Shale gray, very slight dolomitic, silty, moderately firm, 15% with traces of Shale, pale-green; anhydrite; Marlstone.
- 15,530-15,550' Siltstone, dark red, as above 50% with Siltstone, brownish-red as above 40% with Siltstone, light gray, dolomitic 10%.
- 15,550-15,560' Siltstone, red as above 80% with Dolomite, gray to dark gray, micro crystalline, silty, slightly translucent, firm 20%.
- 15,560-15,570' Dolomite, gray to dark gray, micro crystalline, silty, slightly translucent, firm 40% with Dolomite, light gray, micro crystalline, slightly limey, firm 40% with Siltstone, red as above 20% with show of anhydrite and Marlstone.
- 15,570-15,580' Siltstone, red as above 50% with Dolomite, light gray as above 25% with Dolomite, dark gray, as above 25% with traces anhydrite.
- 15,580-15,590' Dolomite, light to dark gray, micro crystalline, slightly silty, translucent, firm 75% with Siltstone, red as above 25% with traces anhydrite.
- 15,590-15,600' Marlstone, tan to light gray, dolomitic, soft 65% with Dolomite, light to dark gray as above 25% with Siltstone red as above 10% with traces anhydrite.
- 15,600-15,620' Dolomite, light and dark gray, as above 80% with Siltstone, red as above 20% with traces white calcite with traces anhydrite.
- 15,620-15,650' Dolomite, light gray to gray to black, micro crystalline, slightly silty, slightly translucent 95% with 5% Siltstone, red as above 5% with traces anhydrite and calcite, white.
- 15,650-15,660' Dolomite, gray, micro crystalline, hard, slightly silty, with traces red Siltstones, anhydrite and Marlstone.
- 15,660-15,790' Dolomite, gray to dark gray, micro crystalline, hard, slightly silty, 60% with Dolomite Limestone, light gray to gray white, mottled, slight salt and pepper, moderately soft 40% with traces red Siltstone, anhydrite, calcite, white.
- 15,790-15,810' Dolomite, gray to dark gray, micro crystalline, hard, limey, slightly silty 50% with interbedded chert, milky translucent, salt and pepper, 10% with Limestone, light gray to gray white, mottled, slightly salt and pepper, moderately soft 40% with traces of red Siltstone, Marlstone, and calcite, white.
- 15,810-15,820' Dolomitic Limestone, gray, micro crystalline, hard, slightly silty 70% with interbedded chert as above 10% with Limestone, light gray to gray white, mottled, slight salt and pepper, moderately soft 20% with traces red Siltstone and calcite, white.

SAMPLE DESCRIPTION  
PAGE 18

15,820-15,830'	Dolomitic Limestone, as above 45% with interbedded chert, as above 10% with Limestone, white to light tan, mottled, moderately soft 45%.
15,830-15,840'	Dolomitic Limestone as above 50% with interbedded chert as above 10% with Limestone as above 40% with show calcite, white.
15,841'	Samples at 20 minute intervals
0 minutes- 80 minutes	Dolomitic Limestone as above 40% with interbedded chert 10% with Limestone as above 50% with show calcite and red Siltstone.
80 minutes- 100 minutes	Limestone as above 60% with traces healed fractures with dolomitic Limestone as above 30% with chert as above 10% with traces calcite and red Siltstone.
100 minutes- 120 minutes	Dolomitic Limestone as above 50% with Limestone as above 50% with traces calcite and red Siltstone.
15,840-15,850'	No sample.
15,850-15,870'	Cement shoe and LCM.
15,870-15,890'	Shale, varicolored, red, gray, green, gray-green, moderately soft, sub waxy, with abundant quartz grains. (Hole loaded with fracture sand) Very poor sample.
15,890-15,900'	As above with Limestone, light gray-gray, mottled, micro crystalline, moderately firm, argillaceous, slightly anhydritic, trace calcite.
15,900-15,950'	As above with stringers Dolomite, gray-dark gray, firm, micro crystalline, stringers Shale, red to red brown, moderately firm, sub-waxy and Shale, gray, sub waxy.
15,950-16,020'	As above predominately Dolomite as above with stringers Shale, gray, moderately firm, sub waxy.
16,020-16,090'	Limestone, light gray-tan, moderately firm, micro crystalline, slightly mottled with inclusion and seams calcite. Some inclusion and seams black material. <u>No fluorescence or cut.</u>
16,090-16,150'	Limestone and Dolomite as above with Shale, gray-dark gray, firm, slightly dolomitic, slightly pyritic with some finely disseminated pyrite.
16,150-16,200'	Limestone, gray, micro crystalline, moderately firm, slightly calcitic with lentils Dolomite, dark gray, firm, dense to micro crystalline, shaly.

SAMPLE DESCRIPTION  
PAGE 19

16,200-16,280' Limestone as above with Shale, gray-green to slightly olive green, firm, slightly dolomitic, trace Shale, dark gray, slightly dolomitic, trace Dolomite as above.

16,280-16,350' Shale, brown to slightly maroon-brown, moderately firm, slightly dolomitic, occasionally slight pyritic.

16,350-16,370' Very poor samples.

16,370-16,400' Dolomite, gray, micro crystalline, limy, moderately firm, with stringers and lentils Limestone, light gray, moderately firm, micro crystalline, argillaceous.

16,400-16,420' Very poor samples.

16,420-16,490' Limestone, light-medium gray, micro-very fine crystalline, moderately firm, silty, slightly argillaceous with some lentils Dolomite as above.

16,490-16,520' As above with Shale, gray-dark gray, firm, slightly dolomitic, and Shale, slightly gray-green, sub waxy.

16,520-16,605' Dolomite, light gray-gray, moderately firm-hard, occasionally slightly glassy, micro crystalline, trace Shale, gray, moderately firm, slightly dolomitic.

16,605-16,780' Shale, red to red brown, some red orange, moderately firm, slightly calcite, sub waxy to silty with stringers Siltstone, brown to red brown, moderately firm, moderately calc.

16,780-16,820' As above with increasing in Siltstone percentage.


16,820-16,900' As above with Siltstone, tan, moderately soft, shaly, marly, occasionally slightly sandy.

16,900-16,970' Siltstone, red brown to brown, moderately firm, moderately calc., occasionally very sandy, grading to stringers of very silty Sandstone, very fine grained, sub angular-sub rounded, Shale, red to red brown, moderately firm, sub waxy to slightly silty, moderately calc.

16,970-17,150' Shale as above with stringers Siltstone as above, trace Shale, pale green, moderately firm, sub waxy, trace calcite.

17,150-17,200' Siltstone, red-brown, some tan, moderately firm, moderately calc., very sandy in streaks, some streaks and inclusion calcite with interbeds Shale as above.

17,200-17,325' Shale as above with stringers Siltstone as above.

  
R. L. WAGNER

# CORES

Core No. 1

11,606'-11,630'

Barrel Jammed

Cut 24'

Recovered 24'

11,606-11,607':

Sandstone, white, very fine-fine grained, occasionally medium grained, sub angular-sub rounded, rounded, non-calc., occasional pink grains. Scattered seams black asphaltic residue. Scattered pinpoint white fluorescence. No visible stain or odor. Vertical fractures.

11,607-11,610':

Sandstone, as above. No vertical fractures.

11,610-11,611.5':

Sandstone as above. Slightly more fine-medium grained.

11,611.5-11,615.5':

Sandstone, white-buff, very fine-fine grained, occasionally medium grained, sub angular-sub rounded-rounded, firm, tite. Vertical fractures with black asphaltic residue on fractures. No visible stain or odor. Scattered pinpoint white fluorescence.

11,615.5-11,621':

Sandstone, as above. No vertical fractures. Slight increase in porosity.

11,621-11,622':

Sandstone as above. Scattered black asphaltic residue, firm, tite.

11,622-11,630':

Sandstone, buff-white; buff Sandstone predominately fine-medium grained; white, Sandstone, predominately very fine grained in apparent bedding (22°-23°), sub angular-sub rounded-rounded, firm, tite. Scattered pinpoint white fluorescence. No visible stain or odor.

## NOTE:

The described pinpoint white fluorescence was noted throughout the entire core. In some instances the pinpoints were dense enough to form a cluster of fluorescence.

## DRILL STEM TESTS

Drill Stem Test No. 1

10,636'-10,905'

(Twin Creek Formation)

Packers at 10,567 and 10,636'

5/8" Bottom Hole Choke  
1/4" Surface Choke

Preflow 30 minutes: Tool opened with very weak blow, increasing to weak.

Shut In 60 minutes

Open 120 minutes: Tool reopened with weak blow, continued steady throughout open.

Shut In 180 minutes

Recovered:

1131' Drilling mud. Rm 0.1 at 64°  
190' Water cut mud

Sample Chamber Recovery: 2400 cc muddy water  
Rw 0.08 at 62°  
5 psi

	<u>Inside</u>	<u>Outside</u>
IHP	5608 psi	5620 psi
IFP	114-369 psi	75-406 psi
ISIP	4130 psi	4151 psi
FFP	424-588 psi	442-663 psi
FSIP	2852 psi	2884 psi
FHP	5608 psi	5620 psi
BHT	208°	

Pit Mud:

Rm 0.15 at 54°  
Rmf 0.06 at 60°

Drill Stem Test No. 2

11,480'-11,521'

(Nugget Formation)

Packers at 11,477 and 11,480'

5/8" Bottom Hole Choke  
1/4" Surface Choke

Preflow 30 minutes: Tool opened with very weak blow, continued steady.

Shut In 60 minutes

Open 30 minutes: Tool reopened with very weak blow.

Shut In 60 minutes

Recovered:

313' water cut mud  
Rm 0.4 at 68°  
Rmf 0.15 at 70°

Sample Chamber Recovery: 1840 cc water  
Rw 0.13 at 70°  
2 psi

DRILL STEM TESTS  
PAGE 2

	<u>Inside</u>	<u>Outside</u>
IHP	5506 psi	5503 psi
IFP	26-76 psi	50-87 psi
ISIP	4722 psi	4632 psi
FFP	101-138 psi	112-162 psi
FSIP	4659 psi	4644 psi
FPH	5531 psi	5503 psi
BHT	238°	

Pit Mud: Rmf 0.15 at 68°

Drill Stem Test No. 3                      11,475'-11,630'                      (Nugget Formation)

Misrun - Packers would not seal.

Drill Stem Test No. 4                      11,498'-11,630'                      (Nugget Foramtion)

Misrun - Packers would not seal.

Drill Stem Test No. 5                      10,631'-11,630'                      (Nugget Formation)

5/8" Bottom Hole Choke                      1/4" Surface Choke

Preflow 15 minutes:                      Tool opened with fair blow. Increased to bottom of bucket in 3 minutes.

Shut In 180 minutes  
Open      150 minutes:                      Tool reopened with moderate blow. Increased to bottom of bucket in 3 minutes. In 1 1/2 hours pressure against surface choke was 7 1/4 psi. Blow decreased to very weak at end of 2 1/2 hours. NGTS

Shut In 120 minutes

Recovered:                      8140' Drilling mud (Bottom slightly water cut)  
   1120' Blackish Sulphur Water

Sample Chamber Recovery: 2400 cc Black Sulphur Water  
   Rw 0.25 at 63° 21,500 ppm Chlorides  
   60 psi

	<u>Inside</u>	<u>Outside</u>
IHP	5030 psi	5120 psi
IFP	436-1108 psi	416-1198 psi
ISIP	4582 psi	4661 psi
FFP	1257-4395 psi	1334-4475 psi
FSIP	4619 psi	4698 psi
FHP	5042 psi	5132 psi
BHT	224°	

Pit Mud: Rm 0.12 at 58°, Rmf 0.10 at 56°, 53.000 ppm Chlorides

April 4, 1979

MEMO TO FILE

Re: MICHIGAN-WISCONSIN PIPELINE  
Well No. Weber Coal Co. 13-3  
Sec. 3, T. 2N, R. 5E  
Summit County, Utah

It is the intention of Michigan-Wisconsin Pipeline to deepen this already existing drilling hole from an approximate depth of 17,000' to 21,000', or an advisable test of the Madison Formation.

Prior to putting a rotary rig on the well, the operator moved a completion rig of the Pool Company from south western Louisiana to this location. They had continued on drilling out the cement plugs and cleaning the casing out to the depth at which it had previously been run (11,051'). However, due to uncertainty of rig course and instruction from the operator, the expenditure to date has been in excess of \$260,000. Forty days have been wasted, the only productive thing being that two of the cement plugs have been drilled out.

They plan to move in a large rotary rig to complete the job, and are going to utilize the small rig until it arrives.

MICHAEL T. MINDER  
GEOLOGICAL ENGINEER

MTM/lw



STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL & GAS CONSERVATION1688 WEST NORTH TEMPLE  
SALT LAKE CITY, UTAH 84116  
833-5771State Lease No. N/A  
Federal Lease No. N/A  
Indian Lease No. N/A  
Fee & Pst. Weber Coal

## REPORT OF OPERATIONS AND WELL STATUS REPORT

STATE Utah COUNTY Summit FIELD/LEASE WildcatThe following is a correct report of operations and production (including drilling and producing wells) for the month of:  
February, 19 79Agent's Address 717 17th St., Ste. 2500  
Energy Center I,  
Denver, CO 80202  
Phone No. 303-571-1110Company Michigan Wisconsin P/L Co.  
Signed A. H. Moreno  
Title Production Coordinator

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 3 NW SW 1/4	2N	5E	13-3	0	0	0	0	0	0	Dr1g (W0) 9958'



## GAS: (MCF)

Sold 0  
Flared/Vented 0  
Used On/Off Lease 0

## OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month 0  
Produced during month 0  
Sold during month 0  
Unavoidably lost 0  
Reason: \_\_\_\_\_  
On hand at end of month 0

DRILLING/PRODUCING WELLS: This report must be filed on or before the sixteenth day of the succeeding month following production for each well. Where a well is temporarily shut-in, a negative report must be filed. THIS REPORT MUST BE FILED

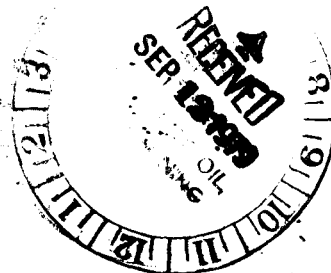
## STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL & GAS CONSERVATION1888 WEST NORTH TEMPLE  
SALT LAKE CITY, UTAH 84116  
833-5771State Lease No. N/A  
Federal Lease No. N/A  
Indian Lease No. N/A  
Fee & Pat. Weber Coal

## REPORT OF OPERATIONS AND WELL STATUS REPORT

STATE Utah COUNTY Summit FIELD/LEASE WildcatThe following is a correct report of operations and production (including drilling and producing wells) for the month of:  
March 19 79Agent's Address Ste 2500 Energy Ctr I  
717-17th St.  
Denver, CO 80202  
Phone No. 303-571-1110Company Michigan Wisconsin P/L Co.  
Signed A. H. Moreno  
Title Production Coordinator

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (in thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (if drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 3 1W SW 1/4	2N	5E	13-3	0	0	0	0	0	0	Dr1g (W0) 11,199'



## GAS: (MCF)

Sold 0  
Flared/Vented 0  
Used On/Off Lease 0

## OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month 0  
Produced during month 0  
Sold during month 0  
Unavoidably lost 0  
Reason: \_\_\_\_\_  
On hand at end of month 0

DRILLING/PRODUCING WELLS: This report must be filed on or before the sixteenth day of the succeeding month following production for each well. Where a well is temporarily shut-in, a negative report must be filed. THIS REPORT MUST BE FILED

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL & GAS CONSERVATION1588 WEST NORTH TEMPLE  
SALT LAKE CITY, UTAH 84116  
833-5771State Lease No. N/A  
Federal Lease No. N/A  
Indian Lease No. N/A  
Fee & Pct. Weber Coal

## REPORT OF OPERATIONS AND WELL STATUS REPORT

STATE Utah COUNTY Summit FIELD/LEASE WildcatThe following is a correct report of operations and production (including drilling and producing wells) for the month of:  
April 19 79Agent's Address Ste 2500 Energy Ctr I  
717-17th St.  
Denver, CO 80202  
Phone No. 303-571-1110Company Michigan Wisconsin P/L Co.  
Signed L. A. Pharo  
Title Production Coordinator

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 3 NW SW 1/4	2N	5E	13-3	0	0	0	0	0	0	PBTD: 11,095' RURT



## GAS: (MCF)

Sold 0  
Flared/Vented 0  
Used On/Off Lease 0

## OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month 0  
Produced during month 0  
Sold during month 0  
Unavoidably lost 0  
Reason: \_\_\_\_\_  
On hand at end of month 0

DRILLING/PRODUCING WELLS: This report must be filed on or before the sixteenth day of the succeeding month following production for each well. Where a well is temporarily shut-in, a negative report must be filed. THIS REPORT MUST BE FILED

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL & GAS CONSERVATION

1888 WEST NORTH TEMPLE  
SALT LAKE CITY, UTAH 84116  
833-5771

State Lease No. N/A  
Federal Lease No. N/A  
Indian Lease No. N/A  
E&P: Weber Coal

REPORT OF OPERATIONS AND WELL STATUS REPORT

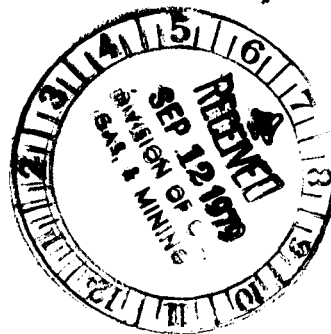
STATE Utah COUNTY Summit FIELD/LEASE Wildcat

The following is a correct report of operations and production (including drilling and producing wells) for the month of:  
May 19 79

Agent's Address Ste 2500 Energy Ctr I  
717 17th St.  
Denver, CO 80202  
Phone No. 303-571-1110

Company Michigan Wisconsin P/L Co.  
Signed A. H. Norman  
Title Production Coordinator

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (in thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (if drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 3 NW SW 1/4	2N	5E	B-3	0	0	0	0	0	0	Dr'lg @15,675'



GAS: (MCF)

Sold 0  
Flared/Vented 0  
Used On/Off Lease 0

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month 0  
Produced during month 0  
Sold during month 0  
Unavoidably lost 0  
Reasons: \_\_\_\_\_  
On hand at end of month 0

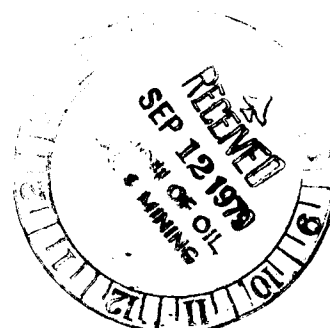
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STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL & GAS CONSERVATION1888 WEST NORTH TEMPLE  
SALT LAKE CITY, UTAH 84116  
833-5771State Lease No. N/A  
Federal Lease No. N/A  
Indian Lease No. N/A  
Fee & Pat. Weber Coal

## REPORT OF OPERATIONS AND WELL STATUS REPORT

STATE Utah COUNTY Summit FIELD/LEASE WildcatThe following is a correct report of operations and production (including drilling and producing wells) for the month of:  
June, 19 79Agent's Address Ste 2500 Energy Ctr I  
717 17th St.  
Denver, CO 80202  
Phone No. 303-571-1110Company Michigan Wisconsin P/L Co.  
Signed A. H. Moreno  
Title Production Coordinator

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (in thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 3 NW SW 1/4	2N	5#	13-3	0	0	0	0	0	0	Dr1g @16,268'



## GAS: (MCF)

Sold 0  
Flared/Vented 0  
Used On/Off Lease 0

## OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month 0  
Produced during month 0  
Sold during month 0  
Unavoidably lost 0  
Reason: \_\_\_\_\_  
On hand at end of month 0

DRILLING/PRODUCING WELLS: This report must be filed on or before the sixteenth day of the succeeding month following production for each well. Where a well is temporarily shut-in, a negative report must be filed. THIS REPORT MUST BE FILED

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL & GAS CONSERVATION

1588 WEST NORTH TEMPLE  
SALT LAKE CITY, UTAH 84116  
833-5771

State Lease No. N/A  
Federal Lease No. N/A  
Indian Lease No. N/A  
Fee & Pst Weber Coal

# REPORT OF OPERATIONS AND WELL STATUS REPORT

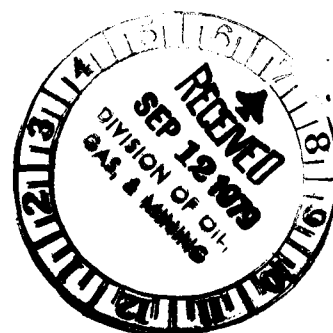
STATE Utah COUNTY Summit FIELD/LEASE Wildcat

The following is a correct report of operations and production (including drilling and producing wells) for the month of: July 1979

Agent's Address Ste 2500 Energy Ctr I  
717 17th St.  
Denver, CO 80202  
Phone No. 303-571-1110

Company Michigan Wisconsin P/L Co.  
Signed G. H. Moore  
Title Production Coordinator

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (in thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (if drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
Sec. 3 NW SW 1/4	2N	5E	13-3	0	0	0	0	0	0	Dr1g @17,954'



**GAS: (MCF)**

Sold 0

Flared/Vented 0

Used On/Off Lease 0

## OIL or CONDENSATE: (To be reported in Barrels)

CONDENSATE (To be reported in barrels)	
On hand at beginning of month	0
Produced during month	0
Sold during month	0
Unavoidably lost	0
Reason:	
On hand at end of month	0

**DRILLING/PRODUCING WELLS:** This report must be filed on or before the sixteenth day of the succeeding month following production for each well. Where a well is temporarily shut-in, a negative report must be filed. *THIS REPORT MUST BE FILED*

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS, AND MINING

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ Other Temp. Abandoned

b. TYPE OF COMPLETION:

NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other2. NAME OF OPERATOR Michigan Wisconsin Pipeline Company  
(American Natural Gas Production Co.)

3. ADDRESS OF OPERATOR

717 - 17th Street, Suite 2500, Denver, Colorado 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*

At surface 500' FWL &amp; 1400' FSL (NW/4, SW/4)

At top prod. interval reported below

At total depth

14. PERMIT NO.

DATE ISSUED

43-043-30024

5/17/79

5. LEASE DESIGNATION AND SERIAL NO.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Weber Coal Co.

9. WELL NO.

#1-13/3-3

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Section 3, T2N-R5E

12. COUNTY OR PARISH

Summit

13. STATE

Utah

15. DATE SPUNDED

16. DATE T.D. REACHED

17. DATE COMPL. (Ready to prod.)

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\*

19. ELEV. CASINGHEAD

Re-enter 2/21/79

9/3/79

-

5981' GR 6002' KB

5981'

20. TOTAL DEPTH, MD &amp; TVD

21. PLUG, BACK T.D., MD &amp; TVD

22. IF MULTIPLE COMPL., HOW MANY\*

23. INTERVALS DRILLED BY

ROTARY TOOLS

CABLE TOOLS

17954 MD

Surface

→

All

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*

25. WAS DIRECTIONAL SURVEY MADE

None

Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN

TDT-CNL, Directional &amp; Angle Log, IRTM

27. WAS WELL CORED

Induction-GR, CBL-VDL-GR, Casing Caliper

No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13-3/8"	61	3039	17-1/2"	2615 sx. to surface	None
9-5/8 & 9-7/8"	40, 43.5,	10663	12-1/4"	900 sx.	None
	47, 53.5 &				
	62.8				

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
7-5/8"	9958	15676	643		None		

31. PERFORATION RECORD (Interval, size and number)

11,624-11,636' 6.5 gm. 2 holes/foot.

10,122-10,126' }  
10,169-10,175' } 22 gm. 4 holes/foot.  
10,226-10,244' }

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
11,624-636'	2500 gal. 15% MSR - 100
10,122'-10,244'	8000 gal. 15% MSR - 100
	Also see attached

33.\* PRODUCTION

DATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) WELL STATUS (Producing or shut-in)  
Temporarily Abandoned

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
			→				
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
		→					

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS

Previously sent.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

TITLE Manager Production &amp; Engineer DATE 10/19/79

\*(See Instructions and Spaces for Additional Data on Reverse Side)

# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF: CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES			38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
			Kelvin	Surface	
			Morrison	7698'	
			Stump	8000'	
			Preuss	8070'	
			Salt	9058'	
			Twin Creek	9440'	
			Nugget	11,464'	
			Chinle	12,676'	
			Ankareh	13,165'	
			Thaynes	14,088'	
			Woodside	15,135'	
			Base Thaynes	15,540'	
			Base Ankareh	16,586'	
			Base Chinle	17,530'	
			Thrust Fault		
			Cretaceous	17,935'	
			Total Depth	17,954'	



1. Cleaned out existing CIBP's in 7-5/8" liner and cement squeezed the following perforations:

10,704'-10,740'  
10,945'-10,992'  
11,252'-11,266'  
14,648'-14,672'

2. Cleaned out open hole to 16,600'.
3. Plugged back open hole 16,098' to 15,860' with cement.
4. Established new hole and drilled 6-1/2" hole from 15,860' to 17,954'.
5. Set 200 sacks cement plug from 17,708' to 17,042'. Fish left in hole 17,715' to 17,890' consisting of 4 4-3/4" D.C.'s, 1 IBS, 1 Monel DC, 1 3 pt. reamer, 1 short DC, 1 6 pt. reamer, & bit (178' in length). Also CIBP with setting tool & CCL at 17,042'.
6. CIBP at 11,715'.  
CIBP at 10,320'.  
CIBP at 9,982' capped w/3 sx. cement. 10 sx. cement plug in surface of 9-5/8" casing with bolted steel plate.
7. Released rig 10/9/79.

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL & GAS CONSERVATION

1588 WEST NORTH TEMPLE  
SALT LAKE CITY, UTAH 84116  
833-5771

State Lease No. N/A  
Federal Lease No. N/A  
Indian Lease No. N/A  
Fee & Pct. Weber Coal

REPORT OF OPERATIONS AND WELL STATUS REPORT

STATE Utah COUNTY Summit FIELD/LEASE Wildcat

The following is a correct report of operations and production (including drilling and producing wells) for the month of:  
September, 19 79

Agent's Address P.O. Box 2267  
Denver, Colorado 80202  
Phone No. (303) 571-1110

Company Michigan Wisconsin Pipe Line  
Signed \_\_\_\_\_  
Title Material and Production Analyst

Sec. & 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (in thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, date and result of test for gasoline content of gas)
Sec. 3 NWSW 1/4	2N	5E	13	-0-	-0-	--	-0-	-0-	-0-	Temporarily abandoned.



GAS: (MCF)

Sold -0-  
Flared/Vented -0-  
Used On/Off Lease -0-

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month -0-  
Produced during month -0-  
Sold during month -0-  
Unavoidably lost -0-  
Reason: -0-  
On hand at end of month -0-

DRILLING/PRODUCING WELLS: This report must be filed on or before the sixteenth day of the succeeding month following production for each well. Where a well is temporarily shut-in, a negative report must be filed. THIS REPORT MUST BE FILED

831 Belinda Circle  
RIVERTON  
Wyoming 82501


January 17 1980

Mr Mike Minder  
State of Utah  
Division of Oil, Gas and Minerals  
1588 West North Temple  
SALT LAKE CITY  
Utah 84116

Dear Sir

With reference to our telephone conversation of January 10, 1980, the Weber Coal 13-3 Location. This location is now completely covered with snow and the ground frozen very hard. Therefore, it would be very difficult to do any further clean-up work until Spring. I have vacuumed the water out of the cellar and feel that the problem there has been corrected. I also feel that it would be better to wait until late Spring or early Summer to do any work on the Reserve Pit.

Yours faithfully

  
DONALD M NEET

c.c. Mr George Goward, Mich Wish

**RECEIVED**

JAN 21 1980

DIVISION OF  
OIL, GAS & MINING

March 18, 1980

MEMORANDUM

TO: File

FROM: Michael T. Minder  
Geological Engineer  
Division of Oil, Gas  
and Mining

Re: Oil Spill  
Michigan-Wisconsin Pipeline  
Well No. Weber Coal #13-3  
Sec. 3, T. 2N, R. 5E.,  
Summit County, Utah

On Monday, March 10, 1980, Mr. Don Neet of Michigan-Wisconsin Pipeline notified this office that the reserve pit on the above referenced well overflowed and that he did not know the extent of the damages but would be in Salt Lake City on the 11th to visit the site.

On Tuesday, March 11, 1980, I visited the site of the spill and walked over a portion of it with Mr. Neet, to assess damages. The spring melt together with a recent rain storm filled the reserve pit, over-flowing the embankment which spilled the contents down the side of a rather steep hillside with a portion of the flow diverted into a lower pond midway to the toe of the slope. The greater portion appeared to have bypassed the pond, flowing down the hill across a road and into another pond and from it, into an irrigation ditch. Some oily residue was left marking the path of the flow; however, much of the oil was trapped in the pond adjacent to the irrigation ditch; the remainder went along and into the irrigation ditch itself.

Water samples were taken from both the irrigation ditch and the pond adjacent to it. On Wednesday, Mary Ann Wright (Division Biologist) and I visited the site again, going over much of the area to assess potential damage. Photographs and slides were taken on the 11th and additional photos were taken on the 12th.

Mr. Neet has contacted the property owners, Mr. K. Blonquist and Mr. L. Wright, and made arrangements for emending damages with both parties. He is working with a local contractor and is in the process of cleaning up the spill. The pond will be burned and the remaining liquid and residue trucked to another pit and disposed of. The liquid and polluted soil will be removed from the irrigation system and disposed of in a like manner.

MEMORANDUM

Oil Spill - Michigan Wisconsin

Well No. Weber Coal #13-3

March 18, 1980

When work is completed, Mr. Neet will notify the Division and the site will be checked at that time and again later in the year to determine successfulness of clean-up operations.

Since there is gas leaking from the well head, the plugging is not adequate and will require that the surface casing be drilled out and plugged properly.

cc: UTAH State Division of Health  
Environmental Protection Agency  
Michigan-Wisconsin Pipeline  
Mr. Donald Neet  
Michael T. Minder

**WU**  
western union

**Telegram**

SLB059(1824)(4-026389S068)PD 03/08/80 1824  
ICS IPMMT7Z CSP *Michigan-Wisconsin (PAA)*

3078561697 TBMT RIVERTON WY 74 03-08 0624P EST

PMS MIKE MINDER RPT DLY MGM, DLR ASAP MONDAY MORNING, DLR

STATE OF UTAH DIVISION OF OIL GAS AND MINERALS 1588 WEST NORTH TEMPLE  
SALT LAKE CITY UT 84116

THIS IS TO ADVISE YOU THAT DUE TO HEAVY RAINS AND MELTING SNOW ON THE  
WEBER CORR 13-3 LOCATION PIT HAS OVERFLOWED. A GREAT DEAL OF THE  
MATERIAL WAS RETAINED IN THE LOWER PIT. CONTRACTOR IS NOW IN PROCESS  
OF CLEANING UP THE SPILL. I WILL BE IN SALT LAKE ON MONDAY MARCH 10.  
WILL CALL FOR AN APPOINTMENT TO DISCUSS THIS MATTER. ATTEMPTED TO  
CONTACT YOU FRIDAY EVENING AND SATURDAY MORNING BY TELEPHONE

DON MEET

831 BELINDA CIRCLE

RIVERTON WY 82501

NNNN

MAR 10 1980

DIVISION OF  
OIL, GAS & MINING

150

March 18, 1980

MEMORANDUM

TO: File

FROM: Michael T. Minder *M.T.M.*  
Geological Engineer  
Division of Oil, Gas  
and Mining

Re: Oil Spill  
Michigan-Wisconsin Pipeline  
Well No. Weber Coal #13-3  
Sec. 3, T. 2N., R. 5E.,  
Summit County, Utah

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Water samples were taken from both the irrigation ditch and the pond adjacent to it. On Wednesday, Mary Ann Wright (Division Biologist) and I visited the site again, going over much of the area to assess potential damage. Photographs and slides were taken on the 11th and additional photos were taken on the 12th.

Mr. Neet has contacted the property owners, Mr. K. Blonquist and Mr. L. Wright, and made arrangements for emending damages with both parties. He is working with a local contractor and is in the process of cleaning up the spill. The pond will be burned and the remaining liquid and residue trucked to another pit and disposed of. The liquid and polluted soil will be removed from the irrigation system and disposed of in a like manner.

MEMORANDUM

Oil Spill - Michigan Wisconsin  
Well No. Weber Coal #13-3  
March 18, 1980

When work is completed, Mr. Neet will notify the Division and the site will be checked at that time and again later in the year to determine successfulness of clean-up operations.

Since there is gas leaking from the well head, the plugging is not adequate and will require that the surface casing be drilled out and plugged properly.

cc: UTAH State Division of Health  
Environmental Protection Agency  
Michigan-Wisconsin Pipeline  
Mr. Donald Neet  
Michael T. Minder



831 Belinda Circle  
RIVERTON  
Wyoming 82501

March 15th 1980

Mr Mike Minder  
State of Utah  
Division of Oil, Gas and Minerals  
1588 West North Temple  
SALT LAKE CITY  
Utah 84116

**RECEIVED**  
**MAR 19 1980**

Ref. Weber Coal 13-3

**DIVISION OF  
OIL, GAS & MINING**

Dear Sir

On Friday March 7, 1980 a portion of the South West retaining wall of the Weber Coal 13-3 Location gave way allowing surface water to escape into the lower Reserve Pit. This was caused by a great deal of heavy wet snow and unusually heavy rains which filled the reserve pit causing approximately 65' of the reserve pit to collapse. The Material in the reserve pit was frozen so that the rain water and melting snow was practically all that escaped.

Also a third reserve pit, which was originally built to gather irrigation water from the adjacent irrigation ditch caught most of the remaining water and some oil from the original pit. However, there was a small amount of this material which got into an irrigation ditch. There was also some damage to a three acre alfalfa field along this irrigation ditch. Two Ranchers' land was involved in this problem. They are Mr Lawrence Wright and Mr Ken Blomquist. I have met with both of these gentlemen and I have agreed to clean Mr Wright's irrigation ditch and to vacuum the water out of his reservoir and clean the reservoir. With regards to Mr Blomquist's alfalfa field we have agreed to reimburse him for any damages incurred.

We have taken a water sample from the second reserve pit, the results were as follows:-

P.H. 8.5  
C.L. 2,000  
C.A. 320  
CHROMATES - None

We will not be able to begin this clean up work for approximately three weeks, in other words, until the surface has dried enough to permit us to move equipment on to the area without causing more damage.

I sincerely hope this letter clarifies our position. If you have any questions please contact me at the above adress or call me at area code 307 - 856 1697.

Yours faithfully

*Donald M Neet*

DONALD M NEET

c.c. Mr Gearge Goward (Michigan Wisconsin)

**MICHIGAN WISCONSIN PIPE LINE COMPANY**

MEMBER OF THE AMERICAN NATURAL RESOURCES SYSTEM

ENERGY CENTER ONE BUILDING, SUITE 2500  
717 SEVENTEENTH STREET, DENVER, COLORADO 80202  
(303) 571-1110



April 16, 1980

Mr. Michael T. Minder  
Division of Oil, Gas & Mining  
State of Utah  
1588 West North Temple  
Salt Lake City, UT 84116

Re: Weber Coal Company #13-3  
NW $\frac{1}{4}$  SW $\frac{1}{4}$  Sec. 3 T2N, R5E  
Summit County, UT

Dear Sir,

In response to your memo of March 18, 1980 concerning the spill at the above location.

We have received signed agreements settling property damage from both land owners, Mr. Blonquist and Mr. Wright.

Mr. Neet will commence clean up operations in accordance with your memo as soon as weather conditions permit, Mr. Neet will contact the Division office when this work is completed.

On April 12, 1980 Mr. Ray Hopkins representing our company cleaned out the 9-5/8" casing to a depth of 30 feet and reset a 15 sack cement plug to surface. The plug will be inspected at a later date to insure it's integrity. The well status is unchanged as "Temporarily Abandoned" with a bolted steel plate installed on the casing head.

Your cooperation and assistance in the above matter is greatly appreciated.

Sincerely,

George Goward  
Area Engineer  
GG/jm

cc: Don Neet

**RECEIVED**  
APR 18 1980

DIVISION OF  
OIL, GAS & MINING

STATE OF UTAH  
OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE\*  
(Other instructions on reverse side)

**SUNDRY NOTICES AND REPORTS ON WELLS**

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>Temporarily Abandoned</u>		5. LEASE DESIGNATION AND SERIAL NO.
2. NAME OF OPERATOR <u>(MICHIGAN-WISCONSIN)</u>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR <u>American Natural Gas Production Company</u>		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) <u>P. O. Box 2267, Denver, Colorado 80201</u> <u>At surface</u> <u>500' FNL and 1400' FSL (NW<math>\frac{1}{4}</math> SW<math>\frac{1}{4}</math>)</u>		8. FARM OR LEASE NAME <u>Weber Coal Company</u>
14. PERMIT NO. <u>43-043-30024</u>		9. WELL NO. <u>13-3</u>
15. ELEVATIONS (Show whether OF, RT, OR, etc.) <u>GL 5981'</u>		10. FIELD AND POOL, OR WILDCAT <u>Wildcat</u>
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA <u>Sec. 3, T2N, R5E</u>
		12. COUNTY OR PARISH <u>Summit</u>
		13. STATE <u>Utah</u>

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	
(Other) <input type="checkbox"/>		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Cleaned out 9-5/8" casing from surface to 30' and reset 15 sack cement plug from 30' to surface on 4/12/80. Installed bolted steel plate on casing head.

Current well status: Temporarily abandoned.

**RECEIVED**  
APR 21 1980

DIVISION OF  
OIL, GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED [Signature] TITLE Area Engineer DATE 4/16/80

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

April 24, 1980

Michigan Wisconsin Pipe Line Company  
Energy Center One Building, Suite 2500  
717 17th Street  
Denver, Colorado 80202

Re: Well No. Weber Coal Company #13-3  
Sec. 3, T. 2N, R. 5E.,  
Summit County, Utah

Dear Mr. Goward:

This is a reply to your letter of April 16, 1980. You indicated that the 9 5/8" casing had been cleaned out to a depth of 30 feet and recemented to the surface, thus leaving the well temporarily abandoned. This will not be acceptable for final abandonment. You will have to re-enter the well bore and place the following plugs:

#1	9982' - 9782'	200' plug
#2	8150' - 7950'	200' plug
#3	6100' - 5900'	200' plug
#4	3100' - 2900'	200' plug
#5	50' - surface	

A 9.5# or greater gel-base abandonment mud will be placed between plugs and a regulation dry hole marker erected. The site must be cleaned, graded and reclaimed.

Please notify this office prior to the plugging of this well, and if we can be of further assistance please feel free to contact me.

Sincerely,

DIVISION OF OIL, GAS AND MINING

Michael T. Minder  
Petroleum Engineer

MTM/bxm

cc

STATE OF UTAH  
OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE\*  
(Other instructions on reverse side)

### SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER Dry hole		5. LEASE DESIGNATION AND SERIAL NO. NA	
2. NAME OF OPERATOR American Natural Resources Production Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME NA	
3. ADDRESS OF OPERATOR 717 17th Street - Suite 2500, Denver, Colorado 80202		7. UNIT AGREEMENT NAME NA	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 500' FNL and 1400' FSL (NW $\frac{1}{4}$ , SW $\frac{1}{4}$ )		8. FARM OR LEASE NAME Weber Coal	
14. PERMIT NO. 43-043-30024		9. WELL NO. DIVISION OF 13-3	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) GL 5981'		10. FIELD AND POOL, OR WILDCAT Wildcat	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 3, T2N, R5E	
		12. COUNTY OR PARISH Summit	13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input checked="" type="checkbox"/>
(Other) <input type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) \*

The subject well was plugged and abandoned as follows:

1. Displaced hole with a 9.2 ppg fresh water gel mud.
2. Set 70 sacks Class "G" cement plug 9000'-8800' in 9-5/8" casing.
3. Perforated 5196-5200' with 2 jpf, set cement retainer at 5000', and cemented in and out of 9-5/8" casing from 5200' to 5000' with 150 sacks.
4. Perforated 2996-3000' with 2 jpf, set cement retainer at 2800', and cemented in and out of 9-5/8" casing from 3000' to 2800' with 150 sacks.
5. Set 50' cement surface plug, installed dry hole marker, and cleaned up location. Permanently P&A on 7/3/81.

**APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING**

DATE: 7/30/81

BY: M. J. Menden

18. I hereby certify that the foregoing is true and correct

SIGNED G. J. Howard

TITLE Area Engineer

DATE 7/23/81

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

DIVISION OF OIL, GAS AND MINING

PLUGGING PROGRAM

NAME OF COMPANY: Michigan-Wisconsin Pipeline (American Natural Gas)

WELL NAME: Weber Coal Co. 13-3

SECTION 3 TOWNSHIP 2N RANGE 5E COUNTY Summit

VERBAL APPROVAL GIVEN TO PLUG AND ABOVE REFERRED TO WELL IN THE FOLLOWING MANNER:

TOTAL DEPTH: 17,954'

CASING PROGRAM:

13 3/8" @ 3039' - Cement to surface  
9 7/8" @ 10,663' TOC 8270'  
7 5/8" liner - 9958' to 15,676'

FORMATION TOPS:

Lower Oyster Ridge	Surface	Stump	8000'
Coalville	450'	Salt	9058'
Chalk Creek	700'		
Aspen	3306'		
Kelvin	3530'		
Morrison	7698'		

PLUGS SET AS FOLLOWS:

Plugging program previously approved by J. Feight to PBTD - 9982'

Present: Run in and displace, circulate out,

KCL water with 9.2# or greater gel

base fresh water abandonment mud.

#1 8500' - 8300', perforate and squeeze 200'  
outside, 200' inside

#2 5200' - 5000' "

#3 3000' - 2800' "

Erect regulation dry hole marker, clean and restore site.

DATE October 30, 1980

SIGNED

*M. J. Winder*

Mich. - 1000.

Nebr. Coal Co. 13-3

50 ft

Geo. Goward

12 1/2 9/8  
36

kelvin

3039'

9 1/8 7

9.2

1000

4000

2000

5000

3000

6000

A

6000

98"

98"

Salt 9580

Tin Co. 9440

200'

CIBP 9982

CIBP 10320

1000'

10463

Morrison 7690

CIBP 11,715

7000

8000

STUMP 8002  
PRUNES 8030

1100

Nugget 11464

12.00